

CLOTHING CONSTRUCTION CONCEPT AND SKILL DEVELOPMENT
AT THREE LEVELS IN NINTH GRADE HOMEMAKING

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TABLE OF CONTENTS

CHAPTER		PAGE
I.	INTRODUCTION	1
	Purposes of the Study	2
	Procedure	3
	Definition of Terms	4
	Organization of the Remainder of the Thesis	4
II.	REVIEW OF LITERATURE	6
	Concept Approach to Teaching	6
	Identification of basic concepts in home economics	9
	Identification of concepts in the area of	
	textiles and clothing	12
	Implementation of the identified concepts in	
	curriculum development	15
	Implementation of the concept approach in	
	teaching home economics	18
	Providing for Individual Differences in Home Economics	22
	Individual differences in the area of	
	clothing construction	28
	Pretesting to determine individual differences	
	in clothing construction	31
	Summary	35
III.	DEVELOPMENT OF SELECTED CONCEPTS AT THREE LEVELS IN	
	NINTH GRADE CLOTHING CONSTRUCTION	38

CHAPTER	PAGE
Identification of Major Clothing	
Construction Concepts	38
Identification of Three Groups of Ninth Grade	
Pupils by Clothing Construction Skill	43
Developmental levels of skills	44
Determining developmental levels of skills	46
Development of pretest	47
Establishment of performance standards	49
Administration of pretest	52
Development of Learning Experiences for	
Selected Concepts	54
Selection of clothing construction concepts	54
Learning experiences at three developmental levels	57
IV. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	81
Conclusions	86
Recommendations for Further Study	87
SELECTED BIBLIOGRAPHY	89
APPENDICES	
Appendix A. The pretest: "How Well Do You Sew?"	94
Appendix B. Rating sheets for pretest problems	101

LIST OF TABLES

TABLE	PAGE
I. Major Concepts in Ninth Grade Clothing Construction for Three Levels of Difficulty	40
II. Characteristics of Developmental Level in Clothing Construction for Three Groups of Pupils in Ninth Grade	46
III. Criterion for Grouping Ninth Grade Pupils on Basis of Pretest Performance	52
IV. Results of Pretests of Pupils in Two Ninth Grade Homemaking Classes	54

CHAPTER I

INTRODUCTION

Formal education is limited in time. How to make this limited exposure to formal education count to the very utmost for every child is one of the most perplexing problems educators face.

As society has become more complex and knowledge has expanded, educational concern has been to help pupils develop intellectual skills and abilities that can be used in many situations. Whether this type of development is described as "critical thinking," "reflective thinking," "problem solving," or "development of intellectual skills and abilities" the implication is the same. Although the retention of information or knowledge is an important outcome of education, few educators would be satisfied to regard it as the primary or sole outcome of instruction.¹

Recent work in home economics education has been concerned with identification of basic concepts and generalizations to provide a conceptual framework for curriculum planning. It is through such curriculum development that home economics educators and subject specialists believe home economics can be taught in such a way as to help the pupil meet unforeseen problems and situations in the future.²

¹ Benjamin S. Bloom (ed.), Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain, p. 38.

² Bernice Mallory, "Curriculum Developments," The Bulletin of the National Association of Secondary-School Principals. 48:51-65. December, 1964.

Decisions dealing with depth and breath of conceptual development at varying educational levels are having to be made. Effectively meeting the needs of individuals, in which there are many differences, is no small problem. Small differences become accented as pupils proceed from simple to more complex learning situations.

It is believed that clothing construction can be planned in such a way that pupils will not only learn manipulative skills and techniques, but the teacher can help the pupils develop intellectual skills and abilities as well as develop concepts and formulate generalizations which will be useful to them in new situations as problems arise.

The ninth grade curriculum guide in use for teaching homemaking in the Wichita, Kansas, schools has not been completely revised in several years and is only in part based on concepts and generalizations. Some basic principles and understandings in clothing construction, some learnings identified as appropriate for ninth grade level, and suggested types of garments are stated in this guide.

A problem was encountered by the writer in attempting to teach for the development of concepts and formulation of generalizations in heterogenously grouped classes. It is believed that learning experiences can be planned to develop concepts in ninth-grade clothing construction to meet pupils' needs at differing levels of development.

PURPOSES OF THE STUDY

The purposes of this study were: (1) to identify major concepts in the area of clothing construction at three levels of difficulty at

ninth grade, (2) to identify three groups of ninth grade pupils by clothing construction skill, and (3) to plan learning experiences to develop selected clothing construction concepts at three levels for ninth grade pupils.

This study was limited to the needs of pupils enrolled in two ninth grade clothing construction classes at Robinson Junior High School, Wichita, Kansas.

PROCEDURE

A review was made of literature concerning the concept approach to teaching and of writings and studies related to providing for individual differences of pupils in the area of clothing construction in home economics.

Clothing construction textbooks and manuals were examined to determine the concepts which were basic to developing skill in beginning clothing construction. Homemaking curriculum guides were studied to determine at which grade level clothing construction concepts were introduced. A listing of major concepts in basic clothing construction was compiled and classified into three levels of difficulty for ninth grade.

A pretest for determining clothing construction skill development of pupils in a heterogeneously grouped ninth grade homemaking class was devised.

Learning experiences were planned for the development of selected concepts in clothing construction at three levels in ninth grade.

DEFINITION OF TERMS

For the purpose of clarifying meanings of specific terms used in this study, the following are defined:

Concepts are abstractions used to organize the world of objects and events into a smaller number of categories. They have many dimensions and meanings and constitute the recurrent themes which occur throughout the curriculum in a cumulative and overarching fashion.¹

Generalizations express underlying truth, have an element of universality, and usually indicate relationships. Generalizations help give meaning to concepts. They are based on objective data, on experience, or on theory accepted by specialists in the field.²

ORGANIZATION OF THE REMAINDER OF THE THESIS

A review of literature related to the concept approach to teaching and to writings and studies providing for individual differences of pupils in the area of clothing construction in home economics is included in Chapter II.

Chapter III includes the identification of major clothing construction concepts at three levels of difficulty and the identification of three groups of ninth grade pupils by clothing construction skill. The learning experiences developed for selected concepts in clothing construction for three groups of ninth grade pupils are presented.

The summary of the study, conclusions drawn from exploratory use

¹Bernice Mallory, "Curriculum Developments," The Bulletin of the National Association of Secondary-School Principals. 48:55. December, 1964.

²Ibid.

of the pretest "How Well Do You Saw," and recommendations are presented in Chapter IV.

Appendices contain the pretest and rating sheets developed for use in this study.

CHAPTER II

REVIEW OF LITERATURE

As background for this study it was necessary to review two types of literature: (1) current writings concerning the concept approach to teaching and (2) writings and studies related to providing for individual differences of pupils in the area of clothing construction in home economics.

CONCEPT APPROACH TO TEACHING

Writings in education currently stress the need for curriculum revision based on the identification of significant ideas in a field of knowledge and on providing learning experiences in such a way that an individual develops abilities and skills in applying these ideas in new situations.

Jerome Bruner advocated that the curriculum of a subject should be determined by the most fundamental understanding that can be achieved of the underlying principles that give structure to the subject. He further pointed out that it is uneconomical to teach specific topics or skills without making clear their context in the broader fundamental structure of a field of knowledge. Such teaching makes it difficult for the student to generalize from what he has learned to what he will encounter later; learning that has fallen short of a group of general principles has little reward in terms of intellectual excitement; and

organizing facts in terms of principles and ideas from which they may be inferred is the only known way of reducing the quick rate of loss of human memory.¹

Dressel further stressed this idea by pointing to the astronomical rate of expansion of knowledge in the basic fields as the reason for identification of concepts. In a discussion of the concept approach as a means for attacking current educational problems, he said:

. . . A meaningful organization of knowledge is necessary if the worth of the knowledge is to be appreciated and its utility made apparent. Much can be done in synthesizing knowledge by introducing global concepts or ideas which tie together what may previously have been unrelated facts. This not only helps to organize the area of knowledge, but it makes it easier for an individual to become acquainted with the field by mastering a relatively few significant ideas rather than a multiplicity of specifics.²

Dressel reported that a number of the basic disciplines and many of the professional and technical fields have come to recognize the necessity for curriculum revision. In all cases, he said, emphasis was being placed on developing a list of significant basic or key concepts so selected that they would be continuously or recurringly used at ever higher levels of sophistication.³

Few authors seem to use the same term for the significant ideas in a field of knowledge. The fundamental meaning tends to be the same whether these ideas are called concepts, generalizations, and/or

¹Jerome S. Bruner, Process of Education, pp. 31-32.

²Illness Economics Seminar, pp. 7-8.

³Ibid., pp. 8-9.

principles.¹

Although research data are available which support the use of concepts in teaching and learning, further studies show that most curriculum content is presented to the students in verbal structure with almost no incidents of teaching which provoke thinking behavior.²

Educational concern stresses that the pupil be taught in such a way that he can find appropriate information and techniques in his previous experience to bring to bear on new problems and situations. This requires ways to analyze a new situation, a background of knowledge or methods which can be utilized readily, and some facility in discerning the appropriate relations between previous experiences and the new situation.³

Under the condition of today's changing and unpredictable culture, Bloom said, emphasis must be placed in the schools on development of generalized ways of attacking problems and on knowledge which can be applied to a wide range of new situations. Since educators have the task of preparing individuals to contend with problems that cannot be foreseen in advance, the greatest help that can be given the pupil is to aid him in acquiring generalized intellectual abilities and skills which

¹ Ibid., pp. 10-16.

² Robert N. W. Travers and Norman Wallen, "The Measured Needs of Teachers," U.S. Office of Education Project No. 444, 1963.

³ Benjamin S. Bloom (ed.), Taxonomy of Educational Objectives, Handbook I: Cognitive Domain, p. 38.

will serve him well in many new situations.¹

Woodruff, in his review of research on the concept approach to teaching, expanded on the recognition of concept learning being the dominant element in education. Among the listed "principles useable in teaching," were the following:

1. Subject matter becomes more meaningful and more directly transferable to behavior when it is transformed from verbal form to conceptualized form.

2. Students must have the concepts in subject matter if they are to engage in problem-solving behavior, but they must also be taught concepts of problem-solving behavior. The mere efforts to solve problems without such prior learning will be relatively unproductive.

3. Both concept forming and concept using are interdependent and will be facilitated if the curriculum provides for a cycle relationship with continuing feedback from the concept-using to the concept-forming phase.

4. Retention and transfer of concepts is facilitated to the extent students either discover for themselves or in some equivalent way obtain a discoverer's intimacy with the conceptual structure.²

Identification of Basic Concepts in Home Economics

Two groups, the Home Economics Division of the American Association of Land-Grant Colleges and State Universities and the Home Economics Education Division of the United States Office of Education, have combined forces in recent years in their effort to identify concepts in the field of home economics. The concern of the first group was the problem

¹ Ibid., p. 40.

² Asahel D. Woodruff, "The Use of Concepts in Teaching and Learning," Journal of Teacher Education, 15:95-96. March, 1964.

of articulation and differentiation of home economics subject matter at various teaching levels; whereas, development of home economics curriculum at the high school level was the initial concern of the Home Economics Education Division of the Office of Education.¹

The seminar held at French Lick, Indiana, in 1961, was one of the first coordinated efforts of home economists to explore and to test the usefulness of the concept approach for home economics.² The broad objective for the seminar was to "attempt to identify concepts and principles in each of the various subject matter areas within home economics and ultimately those that are unifying and common to the field as a whole."³

At the end of the meeting, most of the seminar participants arrived at the conclusion that the identification of concepts in home economics would be possible and helpful. The next problem facing the seminar group was how to further pursue the concept approach in relation to the home economics curriculum. Consultant Paul Dressel suggested to the participants that a limited number of individuals would need to work over a long period of time to identify concepts and principles, to develop new curricular materials, and to arrange for experimentation with them. He further advised consulting the experiences of other groups in varied fields of study, and warned that the task would not be

¹Julia I. Dalrymple, "Teaching for Concept Development," Journal of the American Dietetic Association, 45:23. July, 1964.

²Home Economics Seminar, pp. 1-5.

³Ibid., p. 25.

easy, but it should be highly rewarding.¹

Following the French Lick Seminar, six workshops with the purpose of identifying concepts and generalizations within the various subject areas of home economics were sponsored cooperatively by the Home Economics Education Division of the Office of Education and selected Colleges of Home Economics. The workshops were composed of selected home economics educators: state supervisors, city and county supervisors, teacher educators, heads of home economics in higher institutions, and secondary teachers.² During the summers of 1962 and 1963 concepts and generalizations were identified in the areas of family relationships; home management and family economics; housing, interior design, furnishings and equipment; foods and nutrition; textiles and clothing; and development of children and youth. The Home Economics Education staff of the Office of Education, on the basis of evaluations and suggestions from workshop participants, edited and revised the concepts and generalizations identified at all of the workshops. The material was then reviewed by selected subject matter specialists who had not attended the workshops and further revision was made to incorporate their suggestions.³

"Curriculum Resource Material; Conceptual Framework and

¹ Ibid., pp. 38-39.

² Bernice Mallory, "Curriculum Developments," The Bulletin of the National Association of Secondary-School Principals, 48:53. December, 1964.

³ Ibid., p. 54.

Generalizations in Home Economics"¹ was the end product of the final workshop held at the University of Missouri in 1964. At this time thirty-one persons, most of whom had attended previous workshops, and four representatives of the Office of Education staff refined the definitions for concepts and for generalizations, reviewed and revised the outlines of concepts and generalizations, and made them available for national use. These materials were assumed to be sufficiently comprehensive to provide a reservoir of basic ideas in all areas of home economics for state and local groups to use in developing curriculum resource material at the secondary school level.²

Identification of Concepts in the Area of Textiles and Clothing

The identification of major elements in the area of textiles and clothing teaching has been emphasized over a number of years. College teachers of textiles and clothing recognized that changing conditions in society and the family made it necessary to evaluate progress in curriculum development and plan toward reorientating college level teaching in the subject area. A joint conference of the regional groups of College Teachers of Textiles and Clothing was held at the University of Maryland in June 1956. At this conference basic appreciations and understandings in the subject area were identified and grouped under five headings:

¹U. S. Department of Health, Education, and Welfare, "Curriculum Resource Material: Conceptual Framework and Generalizations in Home Economics."

²Mallory, op. cit., 55-59.

socio-psychological, managerial, economic, aesthetic, and hygienic.¹

Following the French Lick Seminar three regional conferences devoted to identification of concepts in the area of textiles and clothing were held at Michigan State University, Philadelphia, and Washington State College, respectively.

According to Wines, prior to the French Lick Seminar members of the textiles and clothing group had not considered the concept approach to teaching in a scholarly fashion. Some members had not accepted the over-all direction for the teaching of textiles and clothing suggested at the work conference in Maryland. Wines said it became evident that identification of concepts peculiar to clothing was too great a task for the time available during the French Lick Seminar; however, a "suggested conceptual model," based on the report of the 1956 Maryland Conference was made.²

In March 1962, a conference was held at Michigan State University to complete the development of this statement of concepts. Completing a list of basic concepts seemed an impossible task for so few persons in a brief time; consequently, the group turned to the development of a method of work at the level of basic conceptual interrelationships. Areas thought to be most central to the teaching of clothing were identified as Selection of Clothing, Construction of Clothing, Consumption of

¹"Clothing and Textiles Move Forward," Journal of Home Economics. 48:635-637. October, 1956.

²Mary E. Wines, "Progress Report on Concepts for Teaching Clothing," Journal of Home Economics. 55:342-343. May, 1963.

Clothing, and Understanding Clothing in Life. Concepts were formulated and tentatively organized as follows:

UNDERSTANDING, ACQUISITION, AND USE OF CLOTHING

A. Understanding the Place of Clothing in Life

- I. Cross-Cultural Comparisons
- II. Socio-Cultural Change
- III. Psychological Factors

B. Factors Involved in the Acquisition and Use of Clothing:
Selection, Construction, Consumption

- I. Personal Goals and Characteristics
- II. Environment
- III. Resources
- IV. Physical Characteristics of Clothing
- V. Personal Use
- VI. Satisfaction from the Clothing¹

Interrelationships were stated between concepts A and B, and among the factors in concept A and among the factors in concept B. Subcategories were also identified under each concept.²

Another method was attempted for identifying basic concepts at the annual conference of College Teachers of Textiles and Clothing of the Eastern Region in Philadelphia in November 1962. Participants received a bibliography of background on the concept approach prior to the meeting. During the meeting three work groups attempted to identify the basic concepts presented in the series of speeches on the theme, "Economic Aspects of Textiles and Clothing." Even though the three groups had a common basis for identifying concepts each of the groups

¹ Ibid., p. 343.

² Ibid.

arrived at a different listing of concepts.¹

Wines, reporting after the conferences at French Lick, Michigan State University, and Philadelphia, said the process of concept identification involved considerable frustration. Most members of all conferences accepted the merit of the concept approach; however, they all realized that completing the identification of concepts peculiar to clothing was a sizable task lying ahead. Decisions concerning the educational level for introducing the concept would need to be made. Decisions would also have to be made in regard to depth, or level, of conceptualization to which each would be carried in the curriculum.²

The workshop held at Washington State University in the summer of 1963 was one of the six cosponsored by the Office of Education. Textile and clothing subconcepts were identified under six major concepts: (1) Learning to understand the place of clothing in life, (2) Physical, chemical, biological characteristics of textiles, (3) Clothing construction, (4) Aesthetic aspects, (5) Personal factors relative to acquisition and use of clothing and textiles, and (6) Economic aspects of production and marketing of clothing, textiles, and patterns.³

Implementation of the Identified Concepts in Curriculum Development

Various states and cities, stimulated by the work done nationally,

¹ Ibid.

² Ibid.

³ "Textile and Clothing Concepts," Washington State University, College of Home Economics, pp. 1-8.

have begun using the materials developed at the workshops on concepts and generalizations in curriculum development.¹

New York State's 1964 home economics curriculum revision was reported as being clearly organized within a conceptual framework to meet the needs of varied groups. Ostler and Wagner said the program recognizes and makes provisions for different ability and socioeconomic levels as well as different age groups of both sexes. They also stated that concepts and generalizations were selected and planned to provide depth as well as scope of understanding.²

Mallory³ reported curriculum revisions taking place in Oakland, California, and in Montana. A steering group in Oakland had begun development of a conceptual framework in nine areas of home economics.

Montana was reported to have approached curriculum development in its own unique way. A cooperative effort of home economics teachers of the state and the home economics education staffs of Montana State College, Montana State University, and the State Department of Public Instruction developed "Curriculum Resource Material for Home Economics Education in Montana Schools." Twelve competences, fundamental for effective living, are basic to the curriculum development. Eight aspects of family living, as given in Home Economics: New Directions, have

¹Mallory, op. cit., p. 59.

²Ruth-Ellen Ostler and Florence E. Wagner, "New York State Curriculum Revision: Conception to Implementation," Journal of Home Economics. 56:689. November, 1964.

³Mallory, op. cit., pp. 59-65.

generalizations, objectives, and learning experiences in terms of the twelve competences given for them.¹

Work papers of curriculum development in 1964 and 1965 from Minnesota showed development of curriculum materials around selected major concepts at each grade level for Clothing and Textiles, Family and Child Development, and Foods and Nutrition. Unit objectives, broad objectives and generalizations for each major concept; subconcepts, minor objectives, and suggested educational experiences at differing levels of learning were presented.²

The introduction to the 1965 State Course of Study for Alabama High Schools stated that it was

the first Course of Study in the nation to incorporate in all areas of Home Economics the findings of the National Curriculum Study sponsored by the Home Economics Branch, Vocational Division, U.S. Office of Education. . .³

.

The broad concepts and generalizations were studied and broken down into segments of content appropriate for the different levels of Home Economics offered in Alabama in grades 8 through 12 in keeping with the objectives for each level. Learning experiences were suggested through which the objectives might be accomplished and the generalizations understood and applied.⁴

¹ Ibid., pp. 63-65.

² Minnesota Department of Education, Vocational Section, Home Economics Unit, "Work Materials: Resource Units for Clothing and Textiles, Family and Child Development, and Foods and Nutrition."

³ Alabama State Board of Education, Home Economics Course of Study for Alabama High Schools, Volume III, p. 5.

⁴ Ibid., p. 8.

Suggested units at each level are complete and may be moved to another level in relation to learning readiness, needs, and capabilities of the pupils.¹

Implementation of the Concept Approach in Teaching Home Economics

The emphasis on teaching in terms of concept formation in home economics may seem new to many people but, according to Dalrymple, this type of teaching has been going on, possibly unconsciously and perhaps haphazardly. She said, "The reason for today's emphasis is to prompt clear, conscious, and directional thinking on part of students as well as the teachers."²

Dalrymple suggested that after the overall program, indicating the scope and sequence to be taught in a given subject area, is identified the next step is for teachers of specific courses to develop teaching plans. The individual teacher's plans would include specific objectives, content, experiences, and evidences of learning that fit into the overall scheme for the emergence and development of the concepts and/or subdivisions for which they were responsible.³

Among other suggestions for using generalizations effectively in teaching, Spitze listed four reasons for teaching for generalizations:

1. To help students to see relationships and thus be able to make their own decisions and value judgments on the basis of

¹ Ibid., p. 20.

² Dalrymple, op. cit., p. 22.

³ Ibid., p. 25.

increased factual information.

2. To organize the teacher's thinking, to help her arrange the content of her discipline around a few basic ideas.

3. To help the teacher to see clearly what her curriculum should consist of and begin to plan with her pupils the kinds of learning activities which will help them to see the relationships involved.

4. To guide in the evaluation of pupils' learning and help them evaluate themselves.¹

Otto, also, maintained that using concepts and generalizations is one way to teach pupils to think. She said there are three important steps in the process:

. . . Identifying the needed background information or important facts and knowledge; organizing this information into generalizations; using these generalizations in making decisions.²

A five-step plan to use as the pattern for organizing learning experiences to result in conceptual understanding and to help pupils generalize was recommended by Otto:

Step one is to identify the behavioral objectives or desired outcomes on the learning level of the majority of the students in your home economics class.³

Step two is to identify and select the concepts or generalizations which will serve as the basic knowledge to bring the learner to the behavioral objective designated.⁴

¹ Hazel Taylor Spitze, "Generalizations," Practical/Forecast for Home Economics. 28:33. October, 1964.

² Arleen Otto, "Family Finance Concepts, How to Teach Them," Practical/Forecast for Home Economics. 28:56. February, 1964.

³ Ibid., p. 82.

⁴ Ibid.

Step three is to list and document the background information necessary to help the learner understand the concepts and their relationships. Textbooks and reference materials can be assembled in the classroom for students to explore for background information. References by author, page, and/or chapter should be listed by the teacher.¹

Step four is to devise learning experiences which bring the student to recognize the relationships among the concepts, and which give meaning to the background facts and information. Additional facts may be discovered as learning experiences are carried out. Not all students need to have the same learning experiences so that different concepts and relationships may be explored and shared among students. . . .²

Step five is to bring the students to form generalizations in their own words. Sometimes simple questions will accomplish this; other times added learning experiences are necessary.³

Learning experiences devised by Otto illustrated the use of levels of learning as defined in the Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain for providing opportunities for thinking from a simple to a more complex level.⁴

When evaluating this type of teaching and learning in family finance Otto stated:

When a teacher develops plans around concepts and generalizations, she is providing students with a knowledge of family finance which will help him live a more satisfying life in his family today and be better prepared to make decisions about his future. It takes teacher time to develop teaching plans based on concepts and

¹ Ibid.

² Ibid.

³ Ibid., p. 84.

⁴ Ibid., pp. 82-83.

generalizations, but this planning is essential in order to assure the wisest use of students' learning time.¹

Osborn, in one of a series of four articles on using the concept approach in teaching, warned that planning for and teaching by this method is not fast or easy. She said:

. . . this is a slow process and it will take time to develop ability in teaching students to generalize. It will also take time for students to learn to take this responsibility for their own learning. But the time is worthwhile for it results in a classroom that is charged with excitement and enthusiasm.²

One of the topics discussed in a conference concerning education for homemaking and for gainful employment was how the way in which home economics is taught influences the extent of carry-over to occupational preparation. Lawson said:

Use of concepts and generalizations in teaching will increase students' ability to deal intelligently with new situations. Students need to learn how to generalize from their experiences and develop understandings useful to them in a variety of new situations. This approach to teaching will lead to increased student interest and involvement in getting facts and information independently. It should stimulate in the students a greater thirst for seeking answers to many questions and for increasing their initiative and creative ability.³

¹ Ibid., p. 84.

² Barbara Osborn, "Concepts and Generalizations," Concepts and Generalizations, p. 4.

³ Dorothy S. Lawson, "Education for Homemaking and for Employment," Contemporary Issues in Home Economics: A Conference Report, pp. 40-41.

PROVIDING FOR INDIVIDUAL DIFFERENCES

IN HOME ECONOMICS

Problems of dealing with individual differences in a heterogeneous group are well known to every teacher. Small differences become extended as the pupils proceed into more complex learning situations. Failure to grasp fully a new concept or principle takes its inevitable toll in subsequent learning. Since no plan of promotion and pupil classification will completely eliminate heterogeneity among different abilities one must reach the conclusion that the responsibility for dealing with individual differences rests with the classroom teacher.¹

According to Woodruff, the learning process is the same for all students for any particular objective but some may learn faster than others.²

Students' conceptual attainment may stop at different levels. Woodruff stated:

There is a natural order in the operation of the learning processes, which begins with perception, moves into conceptualization and memorization, then involves try-out and practice, with further conceptual development. It may go on to analytical and creative thinking when the person has adequate conceptual background for these processes. The operation of all these processes can be stepped up greatly by the right teaching procedures, but can also be hindered seriously when the teaching procedures do not follow them.³

¹Percival M. Symonds, "Individual Differences," What Education Has to Learn from Psychology, pp. 91-102.

²Asahel D. Woodruff, Basic Concepts of Teaching, p. 192.

³Ibid., p. 89.

Home economics educators have noted differences in pupil achievement, ability, competence, drive, and interest; and how the various subject areas of the field can be utilized to successfully develop individual potential.

Lawson stated:

The nature of home economics, its content and goals, make it a particularly unique avenue for contributing to the enhancement of learning for each student. . . . The home economics teacher has a responsibility for planning programs which really meet the needs of all students.¹

Amidon² suggested the need for many kinds of approaches in order to reach and help motivate pupils of many types of abilities.

The most frequently ascribed means for dealing with the problem effectively has been adjusting content and/or learning experiences to the desired level of learning.

The home economics curriculum revision in New York State incorporated the work of several subcommittees for various aspects of curriculum development, one of which was the Differential Abilities Committee. The task of this committee was to identify and describe the needs of learners of all ages, abilities, and backgrounds. Their recommendations were followed in the development of guiding principles for teaching the

¹Dorothy S. Lawson, "Education for Improved Family Living," The Bulletin of the National Association of Secondary-School Principals. 48:22. December, 1964.

²Edna P. Amidon, "New Explorations in Home Economics Education," Journal of Home Economics. 52:624-630. October, 1960.

differentiated learner.¹

Learning readiness as it relates to the developmental level and capacities of the pupils was considered in the development of the 1965 course of study for home economics in Alabama schools.

. . . This course of Study has levels of learning suggested in each of the different areas of home economics. The instruction at all of the levels has been planned in sequence in relation to a "spiral pattern" to turn back on itself to deepen (without repeating) pupil's understanding of basic learning as it moves forward to new learning on higher levels.

The units suggested on each level are complete learning units in that they climax with generalizations in keeping with the objectives. They may thus be moved to another level (up or down) in relation to learning readiness, needs, and capacities of the students.²

A major responsibility of the teacher in planning learning experiences, according to Osborn, is first to discover the understanding of the concept held by the pupil before attempting to plan experiences for clarifying the concept.³

Different concepts and relationships may be explored and shared among pupils. Otto⁴ reminded teachers that not all pupils need to have the same learning experiences. Varied experiences could accommodate different interests and different abilities within a class.

The second most frequent used means for providing for individual

¹Ostler, op. cit., p. 690.

²Alabama State Board of Education, op. cit., p. 20.

³Osborn, op. cit., p. 8.

⁴Otto, op. cit., p. 82.

differences in the home economics classroom has been through grouping pupils with similar competences. In one of the 1963 issues of the Illinois Teacher of Home Economics, Keenan discussed implications for home economics teachers as related to the three frequently used administrative procedures to make special provisions for the education of gifted students. The first, an acceleration program may necessitate changing content in home economics, especially in skill learning, due to the different physiological development of those pupils who are younger than those for whom a particular course of study was originally established. Those pupils taking home economics as a fifth or sixth subject may present problems in not having time for study outside of class; thus content and assignments may need to be adjusted. It was suggested that an intensive, speeded-up course in home economics to fit into a short period of time might be added to summer school programs.¹

The second procedure, ability grouping in which all classes would be homogeneous in general ability, would mean that the teacher would have to plan her work with the characteristics and needs of each group of pupils in mind.

Enrichment, the third procedure for providing for gifted students, can be practiced in the home economics class. Keenan pointed out that enrichment is not done by giving the pupil more of the same materials or activities, but rather through depth and a range of educational

¹Dorothy Maie Keenan, "Home Economics and the Superior Student," Illinois Teacher of Home Economics. 8:44, 56-61. October, 1963.

experiences that the pupil requires for fullest development.¹

A study of a homemaking course in which the class was homogeneously grouped was reported by Kozik and McDermott. The Department of Home Economics of Carnegie Institute of Technology and the Pittsburgh Public Schools planned cooperatively for experimental research in developing a high school course in home economics for the intellectually gifted, high academic achiever. Bases for choosing the homogeneous grouping were: (1) I.Q. as revealed by the school testing program, (2) academic achievement during high school, and (3) evidence of satisfactory school adjustment as revealed by personality ratings and citizenship grades given by homeroom teachers.²

There was found no significant statistical evidence that the course as planned developed capacity for critical thinking or increased effectiveness as a family member as indicated by a change in values. However, it was concluded that further study would be justified because of the trend in the hypothesized direction.³

The enthusiastic response of class members to the course content of the pilot study suggested a need for increasing the intellectual content of homemaking instruction at all grade levels in order to meet the

¹ Ibid., pp. 61-62.

² Anne Watkins Kozik and Irene E. McDermott, "Course for the Intellectually Gifted," Journal of Home Economics. 53:266-267. April, 1961.

³ Ibid., p. 290.

interests and challenge the full capacities of all students.¹

Sellers and Liggett conducted a study with home economics pupils enrolled in Ohio schools in an attempt to find answers to some questions concerning slow learners in home economics. Conclusions drawn from the study indicated: (1) the number of slow learners was not as great in home economics classes as many had assumed, (2) the question of teaching home economics to slow learners had received little consideration, and (3) teachers who were working with slow learners were ill prepared for their work. One of the recommendations was that where a sufficient number of slow learners is found in a school system, provisions should be made for special classes in home economics.²

Specialists in home economics education have noted that the use of individualized or small group approach is most successful for teaching the slow learner, the gifted, and the educable mentally handicapped. Through use of the individualized or small group approach the teacher is more able to establish a firm, secure relationship with the pupil and to adjust content and methods to the rate of comprehension and progress.³

In reviewing research concerning grouping with implications for home economics educators, Fleck pointed to the inadequacy of the means frequently employed for grouping as a major problem. She explained that

¹ Ibid.

² Baulah E. Sellers and Margaret Liggett, "Slow Learners," Journal of Home Economics. 54:23-25. January, 1962.

³ Lawson, "Education for Improved Family Living," The Bulletin of the National Association of Secondary-School Principals. 48:22. December, 1964.

present measurements of intellectual functioning sample only a small portion of a person's intellectual resources; therefore, instructional groups based on general ability are actually not homogeneous. Another concern about grouping is the frequent lack of consideration given to interests and attitudes of the pupils who are grouped. Fleck concluded that there appears to be evidence that many of the present grouping methods cannot be justified and some instances may be even harmful.¹

Fleck stated, "Effective grouping will help students develop in their learning environment."² Grouping could be done effectively if clear objectives for grouping were determined, the means for grouping carefully selected on the basis of the objectives, and thought given to what happens after the grouping of pupils.³

Individual Differences in the Area of Clothing Construction

Although individual differences in the area of clothing construction are seemingly recognized by most teachers there is little research related to identifying these differences or providing for them at the secondary school level.

Ryan charged that teachers have failed to relate pupils' abilities to the sewing activities in clothing construction. Sewing techniques; quick, easy methods; and the feeling that specific construction

¹Henrietta Fleck, "Grouping in Home Economics," Practical/Forecast for Home Economics. 10:86. September, 1964.

²Ibid., p. 39.

³Ibid., pp. 86-88.

experiences must occur at a definite grade level have been emphasized. Teachers usually group pupils by mental ability when there is also need to classify by creative ability and dexterity.¹

Ryan advocated classifying pupils within a class after analysis of individual ability to follow directions, capacity to maneuver materials, expression of creativity, and working habits on a simple, quick project. After the completion of a first project, fast, creative pupils and slow, unimaginative pupils should not be expected to proceed at the same pace or expected to be satisfied with the same types of garments. Individual competences should guide decisions of pupils for construction projects in the light of wardrobe needs and personal interests.²

A study was made by Horn of early adolescent girls to determine the relationships existing between the ability to use specific tools and the interests, the developmental level based on age, and the occupational status of fathers. The purpose of the study was to ascertain information which could be of value in developing the clothing area of the curriculum in homemaking education for junior high school girls.³

Findings of the Horn study indicated statistically significant

¹Mildred Graves Ryan, "Guide to Sewing Abilities," Practical/Forecast for Home Economics. 10:50-51. October, 1964.

²Ibid., p. 51.

³Fern May Horn, "A Study of the Relationships Between Certain Aspects of Clothing and the Ability to Handle Selected Clothing Construction Tools with the Developmental Levels of the Early Adolescent Girls," unpublished Doctor's thesis, p. 3.

differences between interests of the adolescent girls and their developmental level and the occupational grouping of their fathers. Significant differences were also found between ability to handle selected clothing construction tools and developmental level.¹

Horn concluded from her study that "provision for individual differences in interests and needs require further emphasis in this area of the curriculum."²

In an effort to interest gifted ninth grade pupils at Arsenal Technical High School, Indianapolis, Indiana, in taking home economics courses, McCormick and others designed a study to test the feasibility of organizing and presenting a class in Clothing I labeled "G" for gifted pupils. The course was scheduled to meet for one period rather than for the regular home economics double period.³

The findings showed an apparent relationship between I.Q. and construction grades but I.Q. was more indicative of final grades than of construction grades. Conclusions related to these findings were:

Higher than normal intelligence is not necessary to construction skill, but it usually results in more successful following of directions, reading of printed material, direct application of knowledge, and the adaptation of learning to other situations.

Factors other than IQ affect above-average students in much the

¹ Ibid., pp. 90-91.

² Ibid., p. 103.

³ Louise W. McCormick, and others, "Planning and Evaluating a Clothing Construction Course for Fifteen Ninth Grade Students," Journal of Home Economics. 58:453-455. June, 1966.

same manner as others are affected. Environment, as seen by this study, is a strong element in shaping lives and permitting the full use of capabilities.¹

It was concluded that one way to attract the gifted pupil to home economics may be through courses of the type designed for this pilot study. Responses to requests for criticisms and suggestions from the pupils indicated that the course had a prestige factor, better fit their scheduling needs, and had added learning experiences. Administrators and the investigators felt that the course was worthy of further development. Recommendations for development of home economics classes for the academically talented were:

1. Standards other than grade-point average and IQ for selecting such groupings should be further defined.
2. Further experimentation with special courses aimed toward attracting academically able girls to home economics should continue.
3. Similar courses adaptable to schools where homemaking departments are small should be developed.
4. Experimentation with the development of similar courses in other areas of home economics should be initiated. . . .²

Pretesting to Determine Individual Differences in Clothing Construction

Tyler wrote that predetermining what pupils know before instruction in the class is important for determining the course objectives, content, and learning experiences; and it is imperative to know where students were in order to tell how far changes had taken place in the

¹Ibid., p. 456.

²Ibid.

pupils' behavior as a result of learnings in the class.¹

Both Army² and Osborn³ have pointed to the need for determining the understanding of the concepts held by pupils before effective plans can be made for learning experiences in the home economics classes.

Sibley stated:

. . . Instruction can be infinitely more meaningful if the teacher can discover what students already know about a subject prior to instruction, and here the use of discriminating pre-tests is of primary importance.⁴

Williamson and Lyle stated that two of the purposes of evaluation were:

1. To determine the standing of pupil or group of pupils relative to some objective or objectives at some particular moment.
2. To diagnose the strengths and weaknesses of an individual pupil as a basis for giving him guidance.⁵

In the previously reported study by Horn,⁶ she said that she found no research prior to her study which produced data for differences in abilities in clothing construction. A device was developed by Horn to

¹Ralph W. Tyler, Basic Principles of Curriculum and Instruction, p. 69.

²Clara Brown Army, Evaluation in Home Economics, pp. 22-27.

³Osborn, op. cit., p. 8.

⁴Bradley Slayton Sibley, "Evaluation in Homemaking Education," Journal of Home Economics. 51:275. April, 1959.

⁵Maude Williamson and Mary S. Lyle, Homemaking Education in the High School, p. 286.

⁶Horn, op. cit., p. 85.

determine ability to use tracing wheel, shears, needle, and sewing machine. The device proved successful for identifying differences in the ability to use the selected tools by adolescent girls grouped by developmental levels based on age. Horn recommended further study of the ability to use other kinds and sizes of clothing construction tools in order to obtain a more comprehensive picture of the ability to use various tools.¹

In 1959 Croft² investigated the possibility of adapting the battery of tests used at Iowa State University for sectioning elementary clothing construction students for use at the high school level. The purposes of her study were to secure a battery of instruments which would measure the clothing construction ability of high school pupils and to develop regression equations for the prediction of achievement in the area of homemaking education. Croft used a battery of tests consisting of the Miller Survey of Object Visualization Test, a revised Finger Dexterity Questionnaire, and two clothing construction tests. The Finger Dexterity Questionnaire was used to obtain definite information concerning the background of the pupils at the high school level. The Clothing Construction Tests, Form A for junior high school level and Form B for high school level, were adapted from the revised Saddler Paper-and-Pencil Test and clothing evaluation materials developed for

¹Ibid., p. 104.

²Carol Hatch Frandelig, "Validation of Three Instruments to Predict Clothing Construction Ability at the High School Level," unpublished Master's thesis, pp. 3-5.

use by Iowa high school teachers.

The combined criteria of the test battery was found to be of more value in predicting clothing construction ability than any one instrument. Criteria for measuring achievement in clothing construction were the teachers' record of pupils' skills and practices and a ranking of pupils in order of their general ability in clothing construction as determined by the teacher at the end of the course. These data were used as basis for the development of regression equations and a classification procedure for placing pupils in high, medium, or low ability groups.¹

Croft recommended that revisions be made in the Clothing Construction Tests and that the battery of tests be used with a larger sample.²

Frandolig, in 1960 and 1961, conducted a follow-up study to revise and validate the battery of instruments used by Croft and to develop regression equations for predicting clothing construction success at the high school level. The Clothing Construction Test, Form A and Form B, and the Finger Dexterity Questionnaire were revised on the basis of recommendations of Croft. The procedure from Croft's study was basically followed. Intercorrelations were higher between the composite criterion and each predictor than the intercorrelations between each of the three criterion and the predictors. Findings indicated that, of the

¹Ibid.

²Ibid., p. 5.

instruments tested, the clothing construction pretest was the most valuable predictor of success in clothing. Regression equations were computed for eighth, ninth, tenth, and eleventh/twelfth grades.¹

Iowa State University published the test, "Estimating the Clothing Construction Ability of 8th, 9th, 10th and 11/12th Grade Pupils," based on the studies of Croft and Frandolig. The following statement appeared in the instructions for using the test:

One of the most difficult decisions a homemaking teacher has to make in teaching clothing construction is that of the level of ability of each pupil, particularly if she has not had the pupil in class before. Yet so much depends on the wisdom of this decision. If the garment chosen by the pupil is fitted to her ability level, she is more likely to have a greater sense of achievement and, hence, a greater liking for sewing. Also the pupil will learn more if the pattern and fabric chosen are neither too difficult nor too easy to use. In addition the teacher is more likely to enjoy teaching the unit.²

SUMMARY

Writings in education currently stress the need for curriculum revision based on the identification of concepts in a field of knowledge and on using the concept approach to teaching for development of different abilities and skills.

Conferences and workshops held for the purpose of identifying concepts in home economics have resulted in the acceptance of the merit of the concept approach and recognition of the immensity of the work to

¹ Ibid., pp. 44-45.

² Hester Chadderdon, and others, "Estimating the Clothing Construction Ability of 8th, 9th, 10th, and 11/12th Grade Pupils," p. 2.

be done in identifying concepts. The Home Economics Education Division of the Office of Education has made available outlines of concepts with broad supporting generalizations in all subject matter areas. Curriculum revision in home economics at the secondary level has resulted from the use of these resource materials.

College teachers of textiles and clothing have recognized the need to evaluate curriculum progress in their subject area and had several conferences to plan reorientation to meet the demands of changing needs of society and family.

The use of the concept approach in the classroom, especially planning learning experiences for concept development, takes careful thought and consideration. Decisions concerning four aspects of instruction are deemed necessary when implementing the concept approach: statement of objectives in terms of behavioral change, identification of concepts and generalizations to serve as basic knowledge, selection of appropriate learning experiences, and devising evaluation procedures to determine behavioral change.

Adjustment of curriculum to the levels of learning and the interests of the pupils, and providing special classes for the gifted and the slow learners have been frequently used means of providing for individual differences in home economics classrooms. Through the small group approach provisions can be made for adjusting content and methods to the rate of comprehension and progress as it relates to individual differences.

Educators endorse the significance of determining what the pupils

know before beginning instruction in a class.

Only limited research has been done in the development of instruments for determining the level of skill development in the area of clothing at the secondary school level. Studies have been primarily concerned with predicting ability in clothing construction.

CHAPTER III

DEVELOPMENT OF SELECTED CONCEPTS AT THREE LEVELS IN NINTH GRADE CLOTHING CONSTRUCTION

The purposes of this study were: (1) to identify major concepts in the area of clothing construction at three levels of difficulty at ninth grade, (2) to identify three groups of ninth grade pupils by clothing construction skill, and (3) to plan learning experiences to develop selected clothing construction concepts at three levels for ninth grade.

Discussion of procedures is organized around the identification of major clothing construction concepts, the identification of groups, and the planning three levels of learning experiences for ninth grade.

IDENTIFICATION OF MAJOR CLOTHING CONSTRUCTION CONCEPTS

Several means were used for identifying major concepts at three levels of difficulty in clothing construction for ninth grade pupils. First, an examination was made of clothing construction textbooks and manuals to determine the concepts which were basic to developing skill in clothing construction. Second, homemaking curriculum guides were studied to determine at which grade level clothing construction concepts were introduced. A listing of major concepts in basic clothing construction was compiled.

The third step was classification of the listed concepts into three levels of difficulty. Further study of curriculum materials was made. Those concepts most frequently recommended for the seventh and eighth grades were grouped as beginning level concepts. Concepts introduced at ninth grade and those beginning level concepts which were further developed comprised a second listing. Concepts commonly introduced at tenth grade or which were still more advanced development of concepts generally taught at the ninth grade were listed as a third group.

From these groupings, major concepts in clothing construction were arranged into three difficulty levels for teaching ninth grade classes. A specialist in the area of clothing, two home economics educators, and three junior high school teachers judged the identified concepts to determine their appropriateness for clothing construction at the ninth grade level. Suggestions for revisions were incorporated into the final list.

Major concepts in ninth grade clothing construction and classification by level of difficulty are shown in Table I.

The concepts are presented in the following sequence: (1) those developed to some extent at each level of difficulty, (2) those introduced and partially developed at the second and third level of difficulty, and (3) those introduced only at the third level of difficulty. Level I is the classification of concepts which were found to be most basic to beginning clothing construction and usually introduced at seventh and eighth grades. Level II is the classification of those concepts from the preceding level that are further developed and the

TABLE I
MAJOR CONCEPTS IN NINTH GRADE CLOTHING CONSTRUCTION
FOR THREE LEVELS OF DIFFICULTY

Concept	Level of Difficulty		
	I	II	III
<u>Using and Caring for Sewing Equipment</u>			
Sewing machine	X	X	X
Sewing machine attachments			
Zipper foot	X	X	X
Buttonhole attachment		X	X
Zigzag attachment			X
Small equipment and tools used in clothing construction	X	X	X
<u>Using a Pattern</u>			
Interpreting symbols and pattern markings	X	X	X
Interpreting and using pattern guide sheet	X	X	X
<u>Pattern Adjustments and Alterations</u>			
Lengthening pattern pieces	X	X	X
Shortening pattern pieces	X	X	X
Waist and hip adjustments		X	X
Other individual alterations			X
<u>Fabric Preparation</u>			
(Fabrics that are pre-shrunk or do not need shrinking)			
Thread perfect	X	X	X
Grain perfect	X	X	X
Pressing	X	X	X
<u>Laying Pattern on Fabric</u>			
Plain or simple patterned fabric	X	X	X
One-way design or napped fabric		X	X
<u>Cutting Pattern Pieces from Fabric</u>	X	X	X

TABLE I (continued)

Concept	Level of Difficulty		
	I	II	III
<u>Marking Construction Details on Fabric</u>			
Tracing wheel and dressmaker's tracing paper	X	X	X
Tailor's tacks		X	X
Advanced and/or speed techniques . .			X
<u>Unit Construction and Management in Clothing Construction</u>			
	X	X	X
<u>Pressing in Clothing Construction</u> . .	X	X	X
<u>Staystitching</u>	X	X	X
<u>Darts</u>	X	X	X
<u>Fitted Facings</u>			
Separate armhole and/or neck facings	X	X	X
Cut-in-one neck and armhole facings			X
<u>Seam Construction</u>			
Straight seams	X	X	X
Curved seams	X	X	X
Off-grain or bias seams	X	X	X
<u>Pleats and/or Gathers</u>		X	X
<u>Zipper Application</u>			
Skirt zipper, single lap	X	X	X
Dress zipper, single lap	X	X	X
Application across waistline seam .		X	X
<u>Waistband</u>			
Self interfaced	X		
With interfacing		X	X
<u>Hemming of Flared Skirts</u>			
Easing of raw edge of hem allowance	X	X	X
Blind or slip stitch	X	X	X

TABLE I (continued)

Concept	Level of Difficulty		
	I	II	III
<u>Applying Other Fasteners</u>			
Hooks and eyes	X	X	X
Snaps	X	X	X
<u>Finishing Seams</u>			
Pinked	X	X	X
Edgestitched		X	X
Overcast or zig-zagged			X
Bound			X
<u>Setting in Sleeves</u>		X	X
<u>Interfacings</u>		X	X
<u>Lapped Back or Front Opening</u>		X	X
<u>Joining of Skirt and Bodice Using Stay</u>		X	X
<u>Buttonhole, Machine Worked</u>		X	X
<u>Button Placement and Application</u>		X	X
<u>Making and Attaching a Collar</u>			X
<u>Belts</u>			X

concepts generally introduced at ninth grade. Level III is the classification of those concepts in the preceding levels that are more thoroughly developed than those generally taught at ninth grade and the concepts commonly introduced at tenth grade.

For example, the concept Using and Caring for Sewing Equipment is introduced and/or developed at all levels of difficulty. The major concept is developed in several ways. Introduction is made at Level I to use and care of the sewing machine, the sewing machine zipper foot attachment, and small equipment and tools used in clothing construction. Further development of the concept is made at Levels II and III. The sewing machine buttonhole attachment is introduced at Level II and the concept further developed at Level III. The sewing machine zigzag attachment is introduced at Level III.

IDENTIFICATION OF THREE GROUPS OF NINTH GRADE

PUPILS BY CLOTHING CONSTRUCTION SKILL

Responsibility for dealing with individual differences within a heterogenously grouped class rest with the classroom teacher. Subgrouping of pupils within the heterogenous class is often a method proposed to facilitate teaching to eliminate needless repetition of the understandings and skills possessed by many of the pupils. In a subgrouped class the individual pupil can be allowed to further develop concepts and progress toward realization of individual potential.

A means for determining skill and/or ability levels in the area of clothing construction of the pupils in a heterogeneously grouped

ninth grade homemaking class was developed. First, three developmental levels of skills in clothing construction of ninth grade pupils were identified and second, a pretest for determining the identified developmental levels of skills in clothing construction of individual pupils in ninth grade was devised.

Developmental Levels of Skills

Research studies and readings related to interests, abilities, and individual differences in clothing construction skills, as well as the experience of the writer were drawn upon for identifying developmental levels in the area of clothing construction.

Two aspects were chosen in the learning situation as distinguishing the level of skill development of pupils in ninth grade clothing construction: (1) ability of the learner and (2) previous experiences for the development of skills.

According to Ryan,¹ sewing activities need to be related to three criteria: learning ability, creative ability, and dexterity. Each criterion is divided into three categories:

<u>Ability</u>	<u>Category</u>
Learning	fast (high I.Q.) medium (average I.Q.) slow (low I.Q.)
Creative	excellent good poor

¹Mildred Graves Ryan, "Guide to Sewing Abilities," Practical/Forecast for Home Economics. 10:50-53. October, 1964.

<u>Ability</u>	<u>Category</u>
Dexterity	excellent
	good
	poor

Ryan says that, to the teacher, the outstanding pupils will be the fast learner with excellent creative ability and excellent dexterity; the discouraging pupil will be the slow learner with no creative ability and poor dexterity. Between the two extremes the teacher may expect to find the fast learner with poor dexterity and the slow learner with good dexterity. The last two groups may be able to work at the same speed.¹

An extensive range in abilities of learners in heterogenously grouped homemaking classes at Robinson Junior High School, Wichita, Kansas, was observed over a period of six years. Learning ability ranged from very high to very low within the classes. Individual ability differences in clothing construction among pupils at the ninth grade ranged from little or no clothing construction skill development to highly developed skill. Experience in clothing construction for pupils usually ranged from no previous experience to experience gained through courses in school, commercial lessons, and/or under supervision of club leaders, mothers, or other individuals.

Characteristics of the developmental level in clothing construction of three groups of pupils in ninth grade were established and are presented in Table II.

¹Ibid., p. 51.

TABLE II
CHARACTERISTICS OF DEVELOPMENTAL LEVEL IN CLOTHING
CONSTRUCTION FOR THREE GROUPS OF
PUPILS IN NINTH GRADE

Group	Characteristic
I	Little or no development in clothing construction skills.
II	Some development in several basic clothing construction skills and a few well developed basic clothing construction skills.
III	Some development in most basic clothing construction skills and several well developed basic clothing construction skills.

Determining Developmental Levels of Skills

According to Arny, one reason for ineffective instruction is the teacher's lack of awareness of what students already know or do not know before beginning instruction. Findings of studies indicate greater success in the teaching-learning situation when teachers recognize "need of measurement before instruction" and act accordingly.¹ A few paper-and-pencil and performance pretests have been devised in the area of clothing construction. Although paper-and-pencil tests can be used to determine knowledge of construction processes they do not necessarily assess ability to use the processes. A performance test provides evidence of individual skill and the results can be used for grouping pupils within a class according to level of skill development. The

¹Arny, op. cit., pp. 22-27.

combination of a paper-and-pencil pretest and a performance test would give the teacher the best evidence for determining pupils' needs but could be time consuming in administration and in scoring.

Time and facilities for administering both kinds of pretests were considered. It was decided that a short performance pretest could be devised that would distinguish three levels of skill development of pupils taking ninth grade homemaking. Practical problems in clothing construction were selected as pretest items, standards for rating the problems in clothing construction were established, and standards of performance on the pretest were determined as criteria for grouping pupils.

Development of pretest. It was noted, through classroom observation, that some pupils within the heterogeneously grouped ninth grade classes in the area of clothing construction were able to complete some construction processes satisfactorily with very little or no instruction or assistance from the teacher; however, other pupils frequently needed much instruction and assistance. Further observation lead to identification of five construction processes for which there seemed to be varied degrees of skill development by ninth grade pupils. Each of the construction processes was analyzed by experienced clothing construction teachers and rated according to level of difficulty: (1) stitching a seam, (2) clean finishing a straight edge, (3) clean finishing a curved edge, (4) dart construction, and (5) application of a zipper.

Stitching a seam was chosen as the first construction process in

the series because fewer developed skills were involved than any of the other processes listed.

Clean finishing a straight edge was chosen as the second and clean finishing a curved edge as the third construction process. Edge stitching, a skill involved in each process, requires more ability to manipulate fabric and more refined ability to control the sewing machine than stitching a seam. Evenly turning under a curved or bias edge of fabric requires more skill in manipulating fabric and more refined ability to control the sewing machine than evenly turning under a straight edge.

Dart construction was chosen as fourth in the order of difficulty. The process requires the ability to follow markings in manipulating fabric and stitching, as well as knowledge of acceptable standards of construction.

Application of a zipper was chosen as most difficult in the series of construction processes because it required the manipulation of two pieces of fabric and a garment finding, and either knowledge of several steps or ability to interpret instructions to complete the process.

Application of a zipper, dart construction, and clean finishing a curved edge seemed to be adequate problems for determining three developmental levels of skills in clothing construction of individual ninth grade pupils. Clean finishing a straight edge and stitching a seam were used as additional problems in the pretest since some degree of success is considered psychologically significant for the pupil.

The pretest, "How Well Do You Sew?" (see Appendix A) was developed.

In it, the five construction problems were presented in the sequence of most difficult to least difficult:

- Problem 1. Application of a zipper
- Problem 2. Dart construction
- Problem 3. Clean finishing a curved edge
- Problem 4. Clean finishing a straight edge
- Problem 5. Stitching a seam

The sequence of placing the most difficult problem first was chosen in order that a pupil attempting the three most difficult problems would have sufficient time for completing them. The administration of the pretest was planned for a fifty minute class period. It was not necessary for those pupils completing Problems 1, 2, and 3 to complete Problems 4 and 5 since the first three problems presented would include all skills required in Problems 4 and 5. For example, Problem 1, application of a zipper, would include skills in stitching a seam since the process is basic to zipper application.

Pupils were told on the direction sheet to start with the first problem in the sequence they felt they could complete satisfactorily and proceed with the problems that came after it in sequence. Directions also informed the pupils that they were not expected to complete all problems.

Establishment of performance standards. The purpose of pretesting was to identify clothing construction skill development of pupils so that groups of individuals with similar skill development could be formed within a class. A rating device was needed that could be checked or scored in a short period of time; and pupil interest and desire to know

how the teacher would rate the problems made it desirable to devise means that would be meaningful to both pupils and teacher. Standards for rating each of the problems as well as a way to analyze skill performance were needed.

Clothing construction manuals and texts were studied to determine acceptable standards for each of the five construction processes. Standards selected for each of the five construction processes were in terms of manipulation of fabric, position of stitching, manipulation of the sewing machine and other equipment, application of previous learnings related to standards and principles in clothing construction, and finished appearance. Selected standards were considered pertinent for the intended purpose.

A scale for rating skill performance of each standard listed for the five construction processes and a standard for determining if the construction processes were completed in a satisfactory or unsatisfactory manner seemed to be the most feasible means for attaining the purposes of the pretest.

Three levels of skill performance were established as the basis for judging the various construction problems in the pretest. The levels of performance were adapted from similar performance levels in other fields of study.¹ Materials² developed in the course Education

¹Bradfield and Moredock, Measurement and Evaluation, pp. 203-204.

²"Suggested Levels of Performance of Skills in Clothing Construction," Home Economics Education, Kansas State University.

830, Trends in Home Economics Teaching, at Kansas State University, served as groundwork for further establishing levels of skill performance in clothing construction. Numerical values representing the levels of performance were assigned. The following key to the levels of performance was used:

- Level 1 Performance indicates major error and/or deviation from standard.
- Level 2 Performance indicates minor deviation from standard or skillful correction of error.
- Level 3 Performance indicates skillful execution in meeting standard.

Rating sheets were developed for the problems (see Appendix B). A problem was judged as satisfactory when all standards were checked at Level 2 and/or Level 3, or judged as unsatisfactory when one or more standards were checked at Level 1.

A criterion for grouping pupils within a ninth grade homemaking class on the basis of skill performance on the pretest was established. Six teachers of ninth grade clothing construction judged each of the five construction processes in terms of differentiating among pupils on the basis of previous experience and skill development. They agreed that:

1. Some developed skills in stitching a straight seam and/or clean finishing a straight edge were common among pupils of very limited experience in clothing construction and little skill development.
2. Well developed skills in clean finishing a curved edge and in dart construction were common among pupils having had average experiences in clothing construction (that is, successful eighth grade clothing construction experiences or equivalent experiences) and possessing some well developed skills.

3. Well developed skills in the application of a zipper were common among those pupils having had numerous and varied experiences in clothing construction and possessing several well developed skills.

The differentiating aspects of the pretest items gave basis for establishing the criterion for grouping which is presented in Table III.

TABLE III
CRITERION FOR GROUPING NINTH GRADE PUPILS
ON BASIS OF PRETEST PERFORMANCE

Group	Pretest Performance
I	Unsatisfactory ratings on Problems 1, 2, 3, 4, 5 or satisfactory ratings on Problems 4 and/or 5 only.
II	Satisfactory ratings on Problems 2, 3, 4, and 5.
III	Satisfactory ratings on Problems 1, 2, and 3.

The criterion for grouping ninth grade pupils on basis of pretest performance parallels the characteristics of developmental levels in clothing construction for three groups of pupils in ninth grade as presented in Table II, p. 46. Furthermore, learning experiences could be planned for developing concepts at three levels of difficulty as distinguished in Table I, pp. 40-42 which would correspond to the skill development of pupils in the groups determined by the pretest.

Administration of pretest. The pretest was administered to forty-two pupils in two ninth grade homemaking classes prior to the beginning of the unit in clothing construction. Class A had an enrollment of nineteen pupils and Class B had an enrollment of twenty-three pupils.

The classroom contained fourteen sewing machines and eight laboratory tables with seating space for four pupils at each table. It was decided to administer the pretest to only one half of the pupils in each class at a given time. Limiting the number of pupils taking the pretest at one time provided ample work space and a separate sewing machine for each pupil. Pupils not being tested were given a study period in the school library and the pretest was administered to them during the next class period.

Each pupil had adequate personal equipment and supplies available for use when taking the pretest. The supply list given the pupils at the beginning of the course included the following note, "You will need a skirt zipper (new or used) if you feel you can put a zipper into a skirt with only written directions."

A supply table with the following materials and supplies was located near the center of the classroom during the testing period:

A-line skirt fronts and backs pre-cut from skirt pattern in the Coats and Clark Zipper Kit for teachers.

Zipper application directions: "Zippers, How to Buy, How to Apply," Talon Educational Service, and "Sew in Your Zipper 1-2-3!," Coats and Clark, Inc.

Skirt zippers

Dressmaker tracing wheels, dressmaker tracing carbon, and rulers.

Ratings for the pretest problems were determined for each pupil according to criteria selected. Results of the pretest are shown in Table IV.

TABLE IV
RESULTS OF PRETESTS OF PUPILS IN TWO NINTH
GRADE HOMEMAKING CLASSES

Homemaking Class	Group I	Group II	Group III	Total
A	8	9	2	19
B	12	10	1	23
Total	20	19	3	42

DEVELOPMENT OF LEARNING EXPERIENCES
FOR SELECTED CONCEPTS

Learning experiences were planned for the development of selected concepts in clothing construction for ninth grade pupils. It was feasible to include in this paper only the development of concepts that exemplified plans for teaching three groups of pupils identified by developmental levels of skills. Rationale for selecting specific concepts is discussed and the learning experiences for the selected concepts in clothing construction for three groups within a ninth grade class are presented.

Selection of Clothing Construction Concepts

Six concepts which were used to exemplify the development of learning experiences for three groups of ninth grade pupils were

selected from the identified major concepts.¹ Development of the chosen concepts demonstrated the addition of depth and breadth to the learning experiences of pupils at each succeeding developmental level. Learning experiences developed for concepts taught at all levels demonstrate how the experiences for one group complemented those of other groups and how the experiences could be carried on simultaneously within the class.

Because pupils in Groups II and III possess more advanced developmental levels of manipulative skills involved in the application of many clothing construction concepts, time would be available for additional concepts to be taught at each succeeding level. Pupils in these groups would be challenged with some completely new concepts.

Three concepts representative of those which could be taught at all three levels were chosen: using and caring for sewing equipment, pattern alterations, and staystitching.

The concept, using and caring for sewing equipment, was chosen because it was representative of those concepts which were at the beginning level for some pupils in a class and were at a further development level for other pupils. Learning experiences for using and caring for sewing equipment demonstrated a way that advanced pupils could help other pupils become acquainted with a new idea.

The concept, pattern alterations, was chosen to represent concepts which give more breadth for the pupils in each succeeding group. This is needed knowledge for those who progress into construction of

¹See Table I, pp. 40-42.

more advanced garments.

The concept, staystitching, was demonstrative of those concepts for which the advanced groups' learning experiences were planned to add greater depth to the pupils' understanding of a concept to which they had been introduced earlier.

Two concepts representative of those which were taught at Group II and Group III difficulty levels were chosen for development: interfacing and setting in sleeves.

Interfacing was identified as a new concept for pupils in both groups. The major difference in the planned experiences was the application of the new concept. Since Group III pupils would be able to work with more advanced clothing construction problems, opportunities were provided to apply the concept of interfacing in more complicated situations than for pupils in Group II.

Setting in sleeves, another more advanced clothing construction concept, was identified as a new concept as far as classroom experiences were concerned. Pupils in Group III probably would have become acquainted in unsupervised home experiences with some skills and techniques involved in the application of the concept. The learning experiences differed for the two groups in that the Group III pupils concerned themselves more with learning principles, analyzing previous experiences, and perfecting techniques which led to more satisfying results.

One concept, making and attaching a collar, representative of those which were taught at only Group III ability level was developed. This concept was representative of the advanced clothing construction

concepts selected to challenge pupils who had advanced beyond basic clothing construction. Such advanced concepts, requiring greater comprehension of basic clothing construction concepts and manipulative skills for their application, would add both depth and breadth to the experiences offered Group III pupils.

Learning Experiences at Three Developmental Levels

The objectives for planning learning experiences for selected concepts at three developmental levels were: (1) application of current philosophy in curriculum planning and (2) development of plans usable for teaching ninth grade clothing construction classes at Robinson Junior High School, Wichita, Kansas. Discussion is organized around identification of objectives for the development of selected concepts, formulating generalizations to give subject matter structure, and planning learning experiences for attaining objectives.

The area of clothing construction offers many problems in classifying behavioral objectives. Study of the taxonomies of educational objectives in the cognitive¹ and the affective² domains and available materials concerning work progress on the psychomotor domain was made. Following a discussion of the relationship among the three domains Loree concluded that "attainment of an educational objective in one domain may

¹Bloom, op. cit.

²David R. Krathwohl and others, Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook II: Affective Domain.

be facilitated by the attainment of objectives in another domain."¹

Loree's conclusion was pertinent to the decision that behavioral objectives in clothing construction in this study be classified in the cognitive domain. The concepts would be developed through use of intellectual skills and abilities, and motor activities in the clothing construction laboratory would help pupils to better understand the concepts.

Broad behavioral objectives for each selected major concept were stated at the application level of the cognitive domain.² In this way the teaching-learning processes would be expected to go beyond recall or recognition of knowledge and simple overt responses of the learner. The identified behavioral objectives could serve as a basis for planning learning experiences and evaluative procedures for developing the concepts at the level indicated.

Reviewed curriculum materials in the area of clothing construction seemed to show limited development in stating content in terms of generalizations. Clothing construction textbooks and manuals tend to stress mainly instructions for doing specific construction processes.

If the area of clothing construction is to lend itself to the development of intellectual skills and abilities as well as those skills that are manipulative in nature, it becomes necessary to structure subject matter content in terms of concepts and generalizations rather than

¹M. Ray Loree, "Relationship Among Three Domains of Educational Objectives," Contemporary Issues in Home Economics, p. 80.

²Bloom, op. cit., pp. 44-49, 120-130.

in terms of directions for doing processes.

Formulation of generalizations was needed at a level of learning or depth of subject matter appropriate for ascertainment of the stated behavioral objectives. Major generalizations for each selected concept were formulated at an upper level¹ to show relationships, comparisons, explanations, justifications, interpretations, or predictions. Lower level generalizations are definitions, classifications, descriptions, identifications, or analogies. Supporting generalizations were formulated as nearly as possible to correspond with the levels of learning that were identified for specific learning experiences.

Taba's recommendation for developing sequence in learning experiences was followed.² Sequence progressed from initial encounter with the concept to activities designed for applying what had been learned and activities for assessing and evaluating what had been learned.

Learning experiences for developing concepts began with the introduction of the concept at the knowledge level and further developed it at the comprehension level. Concrete situations were planned for the application of upper level generalizations. Some experiences were planned at the levels of analysis and evaluation for some concepts.

Different and varied learning experiences were planned for each

¹"Guides for Helping Pupils with Concept Development and Application," Home Economics Education, Kansas State University, p. 3.

²Hilda Taba, Curriculum Development, Theory and Practice, pp. 292-298, 363-378.

level of skill development for those concepts developed in more than one group.

Plans for development of the six selected concepts in clothing construction for three groups of pupils in ninth grade follow.

Major Concept: Using and caring for sewing equipment (Groups I, II, and III).

Broad Objective: Applies knowledge of appropriate use and care of sewing equipment in clothing construction.

Major Generalization: If sewing tools and equipment are selected for expected use and used in an approved manner, work may be done easier and faster and the appearance of the finished garment will be of better quality.¹

Supporting generalizations	Learning experiences
	<u>Knowledge</u>
Sewing equipment includes cutting devices, sewing tools, measuring tools, marking devices, and other types of sewing aids. ²	Read reference materials on small sewing equipment. (Groups I and II)
	Make a display of small sewing equipment. (Group II)
	Make up riddle-like questions which would help members of other groups identify pieces of small sewing equipment and determine their use. (Group III)
	Let the above questions lead into a discussion of each piece of equipment, how and when it is used. (Groups I, II, and III)

¹Alabama State Board of Education, Home Economics Course of Study for Alabama High Schools, Volume III, p. 77.

²Minnesota Department of Education, Vocational Section, Home Economics Unit, "Expressing Ourselves through Clothing Construction: Grade 8," p. 7.

Supporting generalizations	Learning experiences
Because sewing equipment differs in quality, in cost, and in ease of use for specific purposes, equipment purchased will be determined by individual need.¹	<u>Comprehension</u> Determine the small equipment needed for individual use. (Groups I, II, and III)
A knowledge of how the sewing machine functions may prevent operating difficulties, accidents, and major repairs.	<u>Application</u> Select small sewing equipment for a personal sewing kit and use the equipment in garment construction at school and at home. (Groups I, II, and III) <u>Knowledge</u> Study references concerning the use and care of the sewing machine. Simple operation of sewing machine, caring for cabinet, etc. (Group I) The above, plus needle replacement, cleaning, oiling, etc. (Group II) The above, plus tension adjustments, etc. (Group III) Watch demonstrations on how to use and care for the sewing machine. (Groups I, II, and III)

¹Mary Mark Sturm and Edwina H. Grieser, Guide to Modern Clothing, p. 230.

Supporting generalizations

Learning experiences

Comprehension

The quality of machine sewing depends upon appropriate use and care of the sewing machine.

Plan demonstrations for use and care of the sewing machine. (Groups I, II, and III) Demonstrations assigned on the basis of information in references.

Application

Demonstrate use and care of sewing machine. (Groups I, II, and III)

Practice skills in using the sewing machine. (Groups I, II, and III)

Use sewing machine in garment construction. (Groups I, II, and III)

Analysis

Consulting the sewing machine manual will assist the user in identifying parts, making particular adjustments, and properly operating and caring for the machine.¹

Diagnose problems with the sewing machine. Make adjustments and/or repairs with assistance when needed. (Groups I, II, and III)

¹ Ibid., p. 243.

Supporting generalizations

Learning experiences

Sewing machine attachments will assist the sewer in making work easier or saving time, in doing special tasks, and in achieving better results than might otherwise be possible.¹

The attachment to be used will be determined by the specific job to be done.²

Knowledge

Consult sewing machine manuals to determine functions of the attachments. (Groups I, II, and III)

Comprehension

Examine various processes that have been done with attachments and determine which attachments were used. (Groups I, II, and III)

Determine which attachments will be needed to use in own garment construction. (Groups I, II, and III)

Application

Practice using various attachments.

Zipper foot and buttonhole attachment. (Groups I and II)

The above, plus overcasting attachment and/or zig-zag attachment and others. (Group III)

Use attachments in garment construction. (Groups I, II, and III)

¹ Ibid., pp. 248-49.

² Ibid., p. 249.

Supporting generalizations

Learning experiences

Apply learnings and skills to more complex garment construction in class or at home. Groups I, II, and III)

Evaluation

Judge individual experiences in using equipment in relationship to the finished construction. (Groups I, II, and III)

Evaluate work habits on basis of management of time and energy. (Groups I, II, and III)

Examine ready-to-wear garments and compare cost and construction standards to garments made. (Groups I, II, and III)

Write or discuss the value of learning to use sewing equipment appropriately. (Groups I, II, and III)

Major Concept: Pattern Alterations (Groups I, II, and III)

Broad Objective: Makes appropriate pattern alterations for individual garment.

Major Generalization: If the person and the pattern are carefully measured and the needed alterations accurately made, there will be little fitting to do on the garment.¹

Supporting generalizations	Learning experiences
	<u>Knowledge</u>
To alter a pattern means to take the pattern up or to let it out until it fits. ²	Read references on simple alterations. (Groups I, II, and III)
To find if alterations are needed, body measurements are compared with those of the pattern. ³	
	<u>Comprehension</u>
Some adjustments to the individual figure may be necessary because patterns are made to standard measurements and most girls and women vary somewhat from those standard measurements.	Review variations in pattern figure types and sizes. (Groups I, II, and III)
	Discuss considerations one needs to take before altering. (Groups I, II, and III)

¹ Iowa Home Economics Association, Unit Method of Sewing, p. 92.

² Byrta Carson, How You Look and Dress, p. 235.

³ Iowa Home Economics Association, loc. cit.

Supporting generalizations	Learning experiences
Altering the pattern before cutting the garment enables one to "cut to fit" and reduces the possibilities of alterations on the garment.¹	List "Alteration Do's and Don'ts." (Groups I, II, and III)
Because the grain line of the fabric is the key to success in altering a pattern, care is taken to preserve the grain line of the pattern piece no matter what change is made.²	Make a poster from the above list. (Group II)
	Fill out chart listing body measurements, pattern measurements, differences, and needed alterations. (Groups I, II, and III)
	Watch demonstrations given by Group III on shortening and lengthening pattern pieces. (Groups I and II)
	Watch teacher demonstrate re-locating a bustline dart and other common bust alterations. (Groups II and III)
	Study references concerning alterations for individual figure problems. Teacher gives individual help when needed. (Group III)

¹Alabama State Board of Education, op. cit., p. 78.

²Sturm, op. cit., p. 36C.

Supporting generalizations

Learning experiences

Successful alteration is changing the size of parts of a garment but not the proportions or lines of the design.¹

If pattern alterations are made with accuracy, a successful fit of the garment is assured.²

Application

Alter pattern pieces.

Skirt. (Groups I, II, and III)

Blouse and other garments.
(Groups II and III)

Analysis

Determine if proper alterations were made as garment is fitted during construction. (Groups I, II, and III)

During preparation for making another clothing project pupils determine if alterations are necessary and discuss with the teacher their plan of operation, then proceed to alter accordingly. (Groups I, II, and III)

Evaluation

Model garments and make judgments concerning fit. Discuss relationship of alterations to fit of garments. (Groups I, II, and III)

¹ Ibid.

² Ibid.

Major Concept: Staystitching (Groups I, II, and III)

Broad Objective: Appropriately staystitches garment pieces.

Major Generalization: Staystitching is a means of helping to insure fit and desired garment hang since it prevents off grain edges from stretching or garment pieces from being pulled out of shape.¹

Supporting generalizations

Learning experiences

Knowledge

Study references concerning grain, directional stitching, and staystitching.

Barclay, Teen Guide to Home-making, pp. 137, 140. (Group I)

Pollard, Experiences in Homemaking, pp. 302, 311, 348-49 and Coats and Clark "Grain in Fabric" (Groups I, II, and III)

Grain refers to the direction of yarns in a fabric.²

Review grain in fabric. (Groups I, II, and III)

Grain perfection is keeping the lengthwise and the crosswise grain of the fabric in balance (at right angles) at all times.³

¹Alabama State Board of Education, op. cit., p. 80.

²Iowa Home Economics Association, op. cit., p. 103.

³Coats and Clark, Inc., Educational Bureau, "Grain in Fabric," p. 2.

Supporting generalizations	Learning experiences
Stitching in the direction of the grain or with the grain is called directional stitching. ¹	Define directional stitching. (Groups I, II, and III)
	<u>Comprehension</u>
Staystitching is a line of directional stitching on a single thickness of fabric to hold the grain in correct position and to prevent stretching, especially of bias or curved edges. ²	Teacher uses cards to aid in discussion of staystitching: What? Where? When? How? Why? (Groups I, II, and III)
Directional stitching will hold fabric threads in place and prevent stretching. ³	Use circle response to answer the question "What?" and to establish that staystitching is directional stitching.
	Discuss "How?" staystitching is to be done.
	Determine why directional stitching is necessary. Look at examples of fabric which have been stretched due to not stitching directionally.

¹Marion S. Barclay and Frances Champion, Teen Guide to Home-making, p. 137.

²Ibid.

³Ibid.

Supporting generalizations	Learning experiences
The correct direction for staystitching is necessary in order to hold the grain in place. It is done in the direction threads lie down or are not roughed up. ¹	Discuss how one determines the grain directions on garment pieces. Give "stroke the cat" test to garment pieces.
Staystitching is used on all edges that are likely to be stretched during construction processes. ²	Discuss "Where?" staystitching is necessary.
Off-grain edges, such as curves or diagonals, are more likely to become stretched during construction than edges that are cut with the grain.	Examine curved, diagonal, and straight edges of scraps of fabric to determine which tend to stretch the most.
To hold the grain of a fabric in position, staystitching is usually placed near the seam-line, within the seam allowance, but the exact location may vary for different purposes. ³	Determine where staystitching is to be done in relation to the edge of the garment piece. Discuss "When?" staystitching is to be done in relation to other construction processes.

¹Edna Bryte Bishop and Marjorie Stotler Arch, The Bishop Method of Clothing Construction, p. 26.

²Sturm, op. cit., p. 254.

³Ibid., pp. 254-55.

Supporting generalizations	Learning experiences
Staystitching holds the grain in fabric in position to preserve shape and help prevent stretching during construction of a garment.	Use "Why?" visual for developing summary of the discussion.
	<u>Application</u>
	Determine which edges of garment pieces need to be staystitched. (Groups I, II, and III)
	Staystitch garment pieces. (Groups I, II, and III)
	Plan where and how to staystitch next construction project. Teacher evaluates plan with the pupil. (Groups I, II, and III)
	<u>Analysis</u>
	Teacher works individually with pupils using a rating sheet to determine if staystitching has been done appropriately. (Groups I, II, and III)
	<u>Evaluation</u>
	Make judgments concerning relationship between staystitching and hang and fit of garments by comparing garments which have and have not been appropriately staystitched. (Groups I, II, and III)

Major Concept: Interfacings (Groups II and III)

Broad Objective: Appropriately selects and applies interfacings for a garment.

Major Generalization: When interfacing is used between the facing and the outer fabric, stretching is prevented, extra strength is provided, and sometimes crispness is added to the faced edge and finishing details.¹

Supporting generalizations	Learning experiences
	<u>Knowledge</u>
	Pretest to determine knowledge of interfacing. (Groups II and III)
	Discuss pretest questions. (Groups II and III)
Interfacing is a piece of fabric that is placed between the facing and the outer fabric. ²	Check guide sheets to determine if interfacing is used in the garment. (Groups II and III)
An interfacing is woven or non-woven material used to reinforce and add strength to portions of a garment under strain or to give firmness and body to material. ³	Study references on interfacings. (Groups II and III)

p. 1. ¹Coats and Clark, Inc., Educational Bureau, "Let's Face It,"

²Ibid.

³Iowa Home Economics Association, op. cit., p. 55.

Supporting generalizations

Learning experiences

Comprehension

The design of the garment, the fabric used and the desired effect determine the type and amount of interfacing used.¹

An interfacing is usually necessary when the garment fabric is soft or lacks body or firmness.²

If there are buttons or buttonholes at an edge, interfacing is usually used with any fabric.³

Interfacing is generally applied to the wrong side of the garment section since the double thickness on the garment section prevents the seam allowances from showing on the right side of the finished garment.⁴

Trimming seam edges and corners of interfacing will prevent bulky edges.⁵

Determine where interfacing will be needed in the particular garments and which types of interfacing material would be most suitable for the garments.
(Groups II and III)

Watch demonstration on applying interfacing. (Groups II and III)

¹ Ibid.

² Coats and Clark, Inc., Educational Bureau, "Let's Face It," p. 1.

³ Ibid., p. 2.

⁴ Ibid.

⁵ Iowa Home Economics Association, op. cit., p. 56.

Supporting generalizations

Learning experiences

Upon the application of interfacing to garment pieces, the two pieces are thereafter treated as one in further garment construction.¹

Application

Select and purchase a suitable interfacing material for garments.

Interfacing for lapped openings with buttons and buttonholes. (Groups II and III)

Interfacing for collars and other details. (Group III)

Use appropriate techniques in applying suitable interfacing to garments. (Groups II and III)

¹Coats and Clark, Inc., Educational Bureau, "Let's Face It,"
p. 2.

Major Concept: Setting in sleeves (Groups II and III)

Broad Objective: Uses appropriate techniques in setting in sleeves to meet standards of well-constructed and correctly fitted sleeves.

Major Generalization: The construction and fit of the sleeves in a garment will influence the appearance and comfort of the finished garment.

Supporting generalizations	Learning experiences
	<u>Knowledge</u>
A set-in sleeve is one that joins the body of the blouse at the shoulder point and the underarm. ¹	Look at pattern books to determine how set-in sleeves differ from those cut with the garment. (Groups II and III)
An appropriately set-in sleeve lies smoothly, with no puckers or pleats in the cap, and fits and hangs well.	Look at examples of garments with set-in sleeves and make a list of standards of appearance for set-in sleeves. (Groups II and III)
	Make poster or bulletin board from the above list. (Group III)
	<u>Comprehension</u>
	Make rating sheet which can be used when evaluating sleeve construction. (Group III)

¹Minnesota Department of Education, Vocational Section, Home Economics Unit, "Wardrobe Planning for Individuality: Grade 9," p. 16.

Supporting generalizations	Learning experiences
The fullness in the cap of a fitted set-in sleeve is eased in so that the sleeve will fit smoothly over the curve of the upper arm with no gathers or pleats showing.¹ Correct fit and grainline accuracy allows the sleeve to hang correctly without pulling or puckering.² Appropriately used techniques in sleeve application will contribute to the fit and appearance of the finished garment.	Examine a well-constructed sleeve and study references to determine what construction techniques are used in meeting standards. (Groups II and III) Carson, <u>How You Look and Dress</u>, pp. 345-350; Lewis, <u>Clothing Construction and Wardrobe Planning</u>, pp. 167-169; and Bishop, <u>The Bishop Method of Clothing Construction</u>, pp. 75-78. (Groups II and III) Sturm, <u>Guide to Modern Clothing</u>, pp. 476-479. (Group III) View filmstrip, "Fashion Sewing the Bishop Way: Part 4"³ (Groups II and III) Discuss techniques used in applying set-in sleeves. (Groups II and III) Ease line Blocking and/or pinning eased fullness Matching key points Accurately fitting, basting, and stitching.

¹Dora S. Lewis and others, Clothing Construction and Wardrobe Planning, p. 167.

²Sturm, op. cit., p. 476.

³School Film Library Training Films, Inc., 150 West 54th Street, New York, New York.

Supporting generalizations	Learning experiences
	Reinforcing points of strain Finishing seams Correctly pressing
	Watch a step-by-step demonstration of sleeve being prepared and set in. (Groups II and III)
	<u>Application</u>
	Set sleeves into garment. (Groups II and III)
	<u>Analysis</u>
	Use rating sheet to determine if standards have been met in the sleeve application. (Groups II and III)
	<u>Evaluation</u>
	Make judgments concerning the relationship of the sleeve application and fit to the appearance of the finished garment. (Groups II and III)

Major Concept: Making and Attaching a Collar (Group III)

Broad Objective: Makes and attaches a collar that is suitable for a specific garment.

Major Generalization: The fit and appearance of a collar depend not only on the shape of the pattern, but also on the way it is constructed, pressed, and attached to the garment.¹

Supporting generalizations	Learning experiences
	<u>Knowledge</u>
Collars are classified according to their various characteristics: width, shape of outside edge, neckline shape, and roll. ²	Look at pattern books and/or fashion magazines to identify different kinds of collars.
Proper stitching of seams, trimming of seams, cutting corners, clipping curved edges, and pressing are basic to a professionally constructed collar.	Study references on making collars. Determine what important construction techniques are basic to making all collars. List the techniques.
	<u>Comprehension</u>
Carefully following the pattern guide sheet may help one to properly make and attach a collar to a specific garment. ³	Using the list of techniques write reasons why each technique is necessary. Discuss.
	Interpret guide sheet of pattern for specific construction and attachment of collar.

¹Minnesota Department of Education, Vocational Section, Home Economics Unit, "Wardrobe Planning for Individuality: Grade 9," p. 14.

²Ibid., p. 13.

³Carson, op. cit., p. 336.

Supporting generalizations	Learning experiences
The fit and appearance of a collar partially depend upon the way it is constructed, pressed, and attached to the garment. ¹	<u>Application</u> Make and attach a collar. <u>Analysis</u> Analyze differences in classmates' collar construction and attachment. Use rating sheet to determine what standards have been met in making and attaching the collar.
Accurate construction of a collar results in a professional finish and style. ²	<u>Evaluation</u> Determine what effect making and attaching the collar has upon the appearance of the finished garment.

¹Minnesota Department of Education, Vocational Section, Home Economics Unit, "Wardrobe Planning for Individuality: Grade 9," p. 14.

²Ibid.

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Educators are currently concerned with the need for curriculum revision based on the identification of concepts in a field of knowledge and on using the concept approach to teaching for development of different abilities and skills.

Conferences and workshops held for the purpose of identifying concepts in home economics resulted in the acceptance of the merit of the concept approach and of the need for identification of the major concepts which form the structure for the field of study. Curriculum revisions in home economics at the secondary level have resulted from use of the resource materials developed by participants in the conferences and workshops.

As a group of concerned home economists, educators in textiles and clothing have worked in various ways to identify the basic concepts in the area.

Writings emphasize use of the concept approach to teaching in home economics. Four factors are deemed necessary when implementing the concept approach: statement of objectives in terms of behavioral change, identification of the concepts and generalizations to serve as basic knowledge, selection of appropriate learning experiences, and devising evaluation procedures to determine behavioral change.

Problems of dealing with individual differences in a heterogenous

group are well known to every teacher. Small differences become extended as the pupils proceed into more complex learning situations. Home economics educators have noted differences in pupil achievement, ability, competence, drive, and interest; and how the various subject areas of the field can be utilized to successfully develop individual potential. Frequently ascribed means for dealing with individual differences are the adjustment of content and/or learning experiences to the desired level of learning and the grouping of pupils of similar competences within a class.

Charges have been made that teachers in clothing construction have been more concerned with sewing techniques than with individual differences in ability, creativity, and dexterity. Limited research has been done in the development of instruments for determining the level of skill development in the area of clothing at the secondary level.

This study was made (1) to identify major concepts in the area of clothing construction at three levels of difficulty at ninth grade, (2) to identify three groups of ninth grade pupils by clothing construction skill, and (3) to plan learning experiences to develop selected clothing construction concepts at three levels for ninth grade pupils.

Clothing construction textbooks and manuals and homemaking curriculum guides were studied for the purpose of identifying major concepts basic to developing skill in clothing construction. The identified concepts were classified into three levels of difficulty for

teaching ninth grade classes: (1) those concepts which were found to be most basic to beginning clothing construction and usually introduced at seventh and eighth grades, (2) those concepts from the preceding level that are further developed and the concepts generally introduced at ninth grade, and (3) those concepts in the preceding levels that are more thoroughly developed than those generally taught at ninth grade and other concepts commonly introduced at tenth grade. Competent persons made judgments of the appropriateness of the concepts for ninth grade.

To determine clothing construction skill and/or ability levels of pupils in a heterogenously grouped ninth grade homemaking class, three developmental levels of skills were identified and a pretest devised for determining the identified levels.

Three developmental levels in clothing construction at ninth grade were characterized as: little or no development in clothing construction skills; some development in several basic clothing construction skills and a few well developed; some development in most basic clothing construction skills and several well developed.

A short performance pretest of clothing construction problems was considered educationally practical and feasible for the time and facilities available for determining levels of skill in clothing construction. Five construction processes of varying degrees of difficulty were identified: (1) stitching a seam, (2) clean finishing a straight edge, (3) clean finishing a curved edge, (4) dart construction, and (5) application of a zipper. Experienced clothing construction

teachers analyzed and rated these processes in terms of differentiating among pupils on the basis of previous experience and skill development.

Standards selected for each of the five construction processes were in terms of manipulation of fabric, position of stitching, manipulation of the sewing machine and other equipment, application of previous learnings related to standards and principles in clothing construction, and finished appearance.

Three levels of skill performance were established as the basis for judging the construction problems in the pretest. Numerical values representing three levels of performance were assigned.

The criterion for establishing three groups on basis of pretest performance paralleled the characteristics of the determined developmental levels in clothing construction.

The pretest, "How Well Do You Sew?," was administered on exploratory basis, to forty-two pupils in two ninth grade homemaking classes at Robinson Junior High School, Wichita, Kansas, prior to the beginning of the unit in clothing construction. Findings showed that it was possible to group ninth grade homemaking pupils at three levels of skill development by use of a performance pretest.

Six concepts were chosen to exemplify how learning experiences could be planned for classes where three groups of pupils were identified by developmental levels of skills. Application of current philosophy in curriculum planning and development of plans usable for teaching ninth grade clothing construction at Robinson Junior High School, Wichita, Kansas, were considered when developing the learning

experiences for the selected concepts.

Concepts chosen for development were those which would demonstrate the addition of depth and breadth to the learning experiences of pupils at each succeeding developmental level. Because pupils in the middle and in the advanced group possess more advanced development in clothing construction skills, additional concepts were introduced for each group.

Current theory is that educational objectives can be identified in three domains of behavior: cognitive, affective, and psychomotor. Because it is further believed that the attainment of an educational objective in one domain may be facilitated by the attainment of objectives in another domain, the broad behavioral objectives for each of the selected major concepts were stated at the application level of the cognitive domain. Subject content was structured in terms of concepts and generalizations to be developed through the use of intellectual skills and abilities as well as motor activities in the clothing construction laboratory.

Learning experiences progressed from simple to complex. Introduction to the concept was made at the knowledge level and further developed at the comprehension level. Concrete situations were planned for the application of upper level generalizations relating to each concept; some were planned at the levels of analysis and evaluation. Different and varied learning experiences were planned for each level of skill development for those concepts developed in more than one group. Learning experiences also demonstrated how provisions made for one

group complemented those of other groups and how the experiences could be carried on simultaneously within the class.

CONCLUSIONS

The following conclusions are based on the outcomes of this study:

1. Planning for and teaching for the differentiated development of specific concepts for three groups within a class may be more feasible educationally and more practical than planning for development of different concepts at different times with individuals.

2. There is a need for further identification of concepts within the area of clothing construction at the secondary school level.

3. Because there seems to be more subject matter content in clothing construction textbooks and manuals stated as directions for doing processes, there may be need for structuring subject matter content in terms of concepts and generalizations.

4. It is possible to develop a pretest based on clothing construction processes of varying degrees of difficulty to identify three levels of skill development for ninth grade pupils.

5. The identification of concepts and generalizations, development of a means for determining developmental levels of skills, and plans for learning experiences for three developmental levels of ninth grade pupils in the area of clothing construction will be of value to the writer in teaching clothing construction in ninth grade homemaking.

RECOMMENDATIONS FOR FURTHER STUDY

Because of the limited nature of this study the following recommendations are made:

1. Further use of the pretest be made under controlled conditions and with a larger number of subjects.

2. Validity and reliability of the pretest be determined.

3. Include the pretest in a more comprehensive means of pre-determining development of basic concepts and principles as well as skill development of individuals in ninth grade clothing construction classes. Results of such a pretest could be helpful in identifying objectives, selecting content, and planning learning experiences in clothing construction.

4. Develop procedures to be used for grouping pupils at other grade levels in the area of clothing construction and in other areas of home economics.

5. Determine attitudes of pupils toward grouping at different developmental levels within a class.

6. The learning experiences developed for the selected concepts in clothing construction for three groups of ninth grade pupils be used and evaluated.

7. Learning experiences for complete units in clothing construction at all grade levels be developed in a manner similar to those in this study.

8. The methods used in this study to identify concepts and plan learning experiences be used for other areas of home economics.

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APPENDICES

APPENDIX A

HOW WELL DO YOU SEW?

Because ninth grade pupils differ in amount of clothing construction skill and experience, a series of problems has been developed to help your teacher determine the kinds of clothing construction experiences that will be most challenging for YOU.

BEFORE BEGINNING TO WORK ON THE PROBLEMS, CAREFULLY READ THE FOLLOWING EXPLANATION, THEN PROCEED WITH THE DIRECTIONS FOR EACH PROBLEM AS YOU ARE READY TO DO THAT PROBLEM.

There are five problems of varying degrees of difficulty:

- Problem 1. Application of a zipper
- Problem 2. Dart construction
- Problem 3. Clean finishing a curved edge
- Problem 4. Clean finishing a straight edge
- Problem 5. Stitching a seam

Completed problems will be rated as "satisfactory" or "unsatisfactory." The results of the ratings will determine in which clothing construction group within the class you will be working.

YOU WILL NOT BE EXPECTED TO COMPLETE ALL PROBLEMS.

START with the first problem you feel you can complete satisfactorily.

For example: Problem 1 is the application of a zipper. If you have never put a zipper into a garment or do not feel that you could do it without help from someone, it would be advisable to skip Problem 1 and proceed to Problem 2. Problem 2 involves the construction of a dart. If you have never made a dart or cannot do it without help from someone, proceed to Problem 3, and so on.

After completing the first problem, proceed with the problems that come after it in sequence. If you have additional time, then attempt any other problem or problems that you wish.

For example: If you feel that Problem 3 is where you should begin, you will first complete that problem and then go on to Problem 4. If you have time you would then do Problem 5. After that you could attempt Problem 2 or Problem 1.

REMEMBER:

1. You are not expected to complete all of the problems.
2. Place your name on each completed problem page.
3. Indicate the order in which you have completed the problems by circling the number in the upper right corner of each problem page.

Name _____

This is the 1st, 2nd, 3rd, 4th, 5th
(circle one)
problem that I have attempted to
complete.

PROBLEM 1. ZIPPER APPLICATION

DIRECTIONS: Use the zipper you brought to class with your individual supplies and equipment.

There is a pre-cut skirt front and back available on the supply table for this problem.

You may use printed directions for zipper application. Pamphlets with directions for zipper application are available on the supply table.

After obtaining a skirt front and a skirt back, sew a side seam suitable for putting in your zipper. Put skirt zipper in the side seam.

PIN SAMPLE HERE:

Name _____

This is the 1st, 2nd, 3rd, 4th, 5th
(circle one)
problem that I have attempted to
complete.

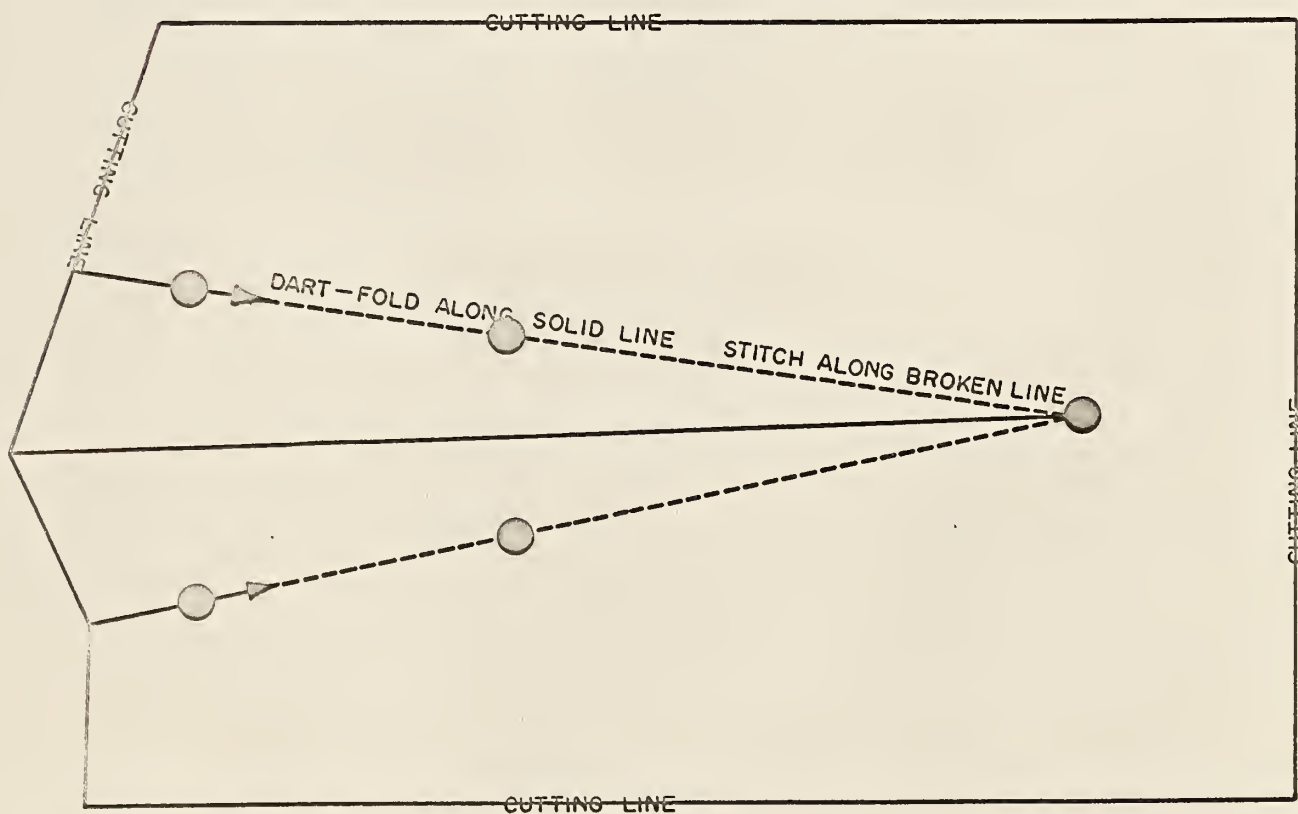
PROBLEM 2. DART CONSTRUCTION

DIRECTIONS: Cut the pattern piece printed on this page from a piece of your fabric. Sew the dart as directed on the pattern.

Supplies and equipment for marking construction details are available at the supply table, if you need them.

PIN SAMPLE HERE:

(Pattern has been reduced approximately twenty-five percent in size.)



Name _____

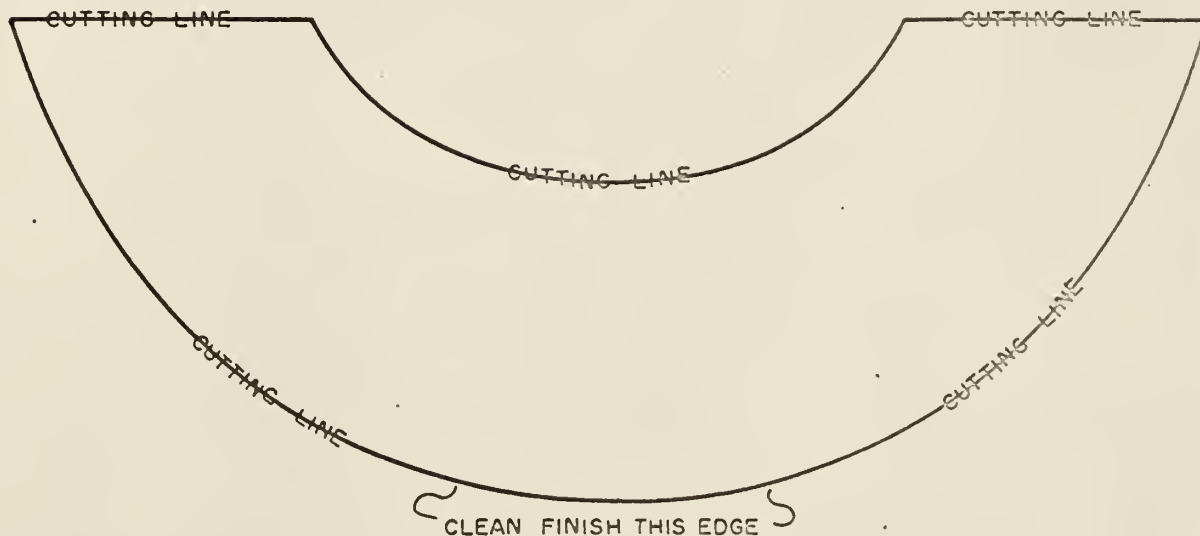
This is the 1st, 2nd, 3rd, 4th, 5th
(circle one)
problem that I have attempted to
complete.

PROBLEM 3. CLEAN FINISHING A CURVED EDGE

DIRECTIONS: Cut the pattern piece printed on this page from a piece of
your fabric. Clean finish the outer curved edge.

PIN SAMPLE HERE:

(Pattern has been reduced approximately twenty-five percent in size.)



Name _____

This is the 1st, 2nd, 3rd, 4th, 5th
(circle one)
problem that I have attempted to
complete.

PROBLEM 4. CLEAN FINISHING A STRAIGHT EDGE

DIRECTIONS: Use a 4" x 6" piece of your fabric. Clean finish one
lengthwise edge.

PIN SAMPLE HERE:

Name _____

This is the 1st, 2nd, 3rd, 4th, 5th
(circle one)
problem that I have attempted to
complete.

PROBLEM 5. STITCHING A SEAM

DIRECTIONS: Use a 4" x 6" piece of your fabric. Tear the piece of fabric in half lengthwise. Securely sew the torn edges together, making a seam that would normally be used in a cotton skirt or dress.

PIN SAMPLE HERE:

APPENDIX B

Name _____

Satisfactory or Unsatisfactory
(circle one)
standards have been met.

Check the level of performance which best describes each standard:

Level 1 performance indicates major error and/or deviation from standard.

Level 2 performance indicates minor deviation from standard or skillful correction of error.

Level 3 performance indicates skillful execution in meeting standard.

SINGLE LAP ZIPPER APPLICATION RATING

Standards	Levels of Performance		
	1	2	3
1. Seam allowance is appropriate--minimum of 5/8 inch seam allowance and straight stitching.			
2. Zipper is positioned properly near the top of the garment--approximately 7/8 inch is left for a seam to cross the top and for the slide to move freely.			
3. Opening is appropriate for length of zipper.			
4. Overlapping edge is approximately 1/2 inch wide and is even in width--top where the pull rests may be wider.			
5. Fastener is completely hidden when the placket is closed.			

SINGLE LAP ZIPPER APPLICATION RATING (CONTINUED)

Standards	Levels of Performance		
	1	2	3
6. Overlap extends no more than 1/16 to 1/8 inch beyond the edge of the fabric of the underlap.			
7. Topstitching is straight.			
8. Fastener and fabric around it are flat and smooth.			
9. Threads are smooth and untangled at beginning of stitching.			
10. Regulation stitch, 12 to 15 stitches per inch, has been used.			
11. Thread tensions appropriate for type of fabric have been used.			
12. Thread ends are securely fastened in the appropriate places.			
13. Finished appearance is neat--threads clean-cut at ends of stitching and fastened thread ends are inconspicuous.			

Name _____

Satisfactory or Unsatisfactory
(circle one)
standards have been met.

Check the level of performance which best describes each standard:

Level 1 performance indicates major error and/or deviation from standard.

Level 2 performance indicates minor deviation from standard or skillful correction of error.

Level 3 performance indicates skillful execution in meeting standard.

DART CONSTRUCTION RATING

Standards	Levels of Performance		
	1	2	3
1. Marking is appropriate for type of fabric.			
2. Dart is evenly folded through the center.			
3. Stitching duplicates pattern lines.			
4. Dart is length indicated on the pattern.			
5. Dart point is tapered.			

DART CONSTRUCTION RATING (CONTINUED)

Standards	Levels of Performance		
	1	2	3
6. Threads are smooth and untangled at beginning of stitching.			
7. Regulation stitch, 12 to 15 stitches per inch, has been used.			
8. Thread tensions appropriate for type of fabric have been used.			
9. Thread ends are securely fastened at the point of the dart.			
10. Finished appearance is neat--threads clean-cut at ends of stitching and fastened thread ends are inconspicuous.			

Name _____

Satisfactory or Unsatisfactory
(circle one)
standards have been met.

Check the level of performance which best describes each standard:

Level 1 performance indicates major error and/or deviation from standard.

Level 2 performance indicates minor deviation from standard or skillful correction of error.

Level 3 performance indicates skillful execution in meeting standard.

CURVED OR STRAIGHT CLEAN FINISH RATING

Standards	Levels of Performance		
	1	2	3
1. Raw edge is turned to wrong side of fabric.			
2. Raw edge is turned under, evenly, 1/4 inch.			
3. Edge stitching is 1/8 inch or less from folded edge.			
4. Stitching is straight.			
5. Clean finished edge lies smoothly.			

CURVED OR STRAIGHT CLEAN FINISH RATING (CONTINUED)

Standards	Levels of Performance		
	1	2	3
6. Threads are smooth and untangled at beginning of stitching.			
7. Regulation stitch, 12 to 15 stitches per inch, has been used.			
8. Thread tensions appropriate for type of fabric have been used.			
9. Thread ends are securely fastened at beginning and ending of stitching.			
10. Finished appearance is neat--threads clean-cut at ends of stitching and fastened thread ends are inconspicuous.			

Name _____

Satisfactory or Unsatisfactory
 (circle one)
 standards have been met.

Check the level of performance which best describes each standard:

Level 1 performance indicates major error and/or deviation from standard.

Level 2 performance indicates minor deviation from standard or skillful correction of error.

Level 3 performance indicates skillful execution in meeting standard.

SEAM CONSTRUCTION RATING

Standards	Levels of Performance		
	1	2	3
1. Right sides of fabric are placed together.			
2. Raw edges and seam ends are matched.			
3. Threads are smooth and untangled at beginning of stitching.			
4. Stitching is straight.			
5. Regulation stitch, 12 to 15 stitches per inch, has been used.			

SEAM CONSTRUCTION RATING (CONTINUED)

Standards	Levels of Performance		
	1	2	3
6. Normal seam allowance, 5/8 inch, has been made.			
7. Thread tensions appropriate for type of fabric have been used.			
8. Thread ends are securely fastened at beginning and ending of stitching.			
9. Finished appearance is neat--threads clean-cut at ends of stitching and fastened thread ends are inconspicuous.			

CLOTHING CONSTRUCTION CONCEPT AND SKILL DEVELOPMENT
AT THREE LEVELS IN NINTH GRADE HOMEMAKING

by

RUBY JEAN SEGO

B. A., Friends University, 1960

AN ABSTRACT OF A MASTER'S THESIS

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1967

Home economics educators are concerned with the need for curriculum revision based on the identification of concepts and generalizations and on using the concept approach to teaching for development of different abilities and skills.

Problems of dealing with individual differences in heterogeneously grouped classes are well known to the home economics teacher. Frequently ascribed means for dealing with individual differences are the adjustment of content and/or learning experiences to the desired level of learning and the grouping of pupils of similar competences within a class. Limited research has been done in the development of instruments for determining the level of skill development in the area of clothing at the secondary level.

This study was made (1) to identify major concepts in the area of clothing construction at three levels of difficulty at ninth grade, (2) to identify three groups of ninth grade pupils by clothing construction skill, and (3) to plan learning experiences to develop selected clothing construction concepts at three levels for ninth grade pupils.

Major concepts basic to developing skill in beginning clothing construction were identified and classified into three levels of difficulty for teaching ninth grade. Competent persons made judgments of the appropriateness of the concepts for ninth grades.

Three developmental levels were identified for clothing construction skill and/or ability of pupils in a heterogeneously grouped ninth grade homemaking class. A short performance pretest, "How Well Do You Sew?," consisting of five construction processes of varying degrees of

difficulty, was devised. Experienced clothing construction teachers analyzed and rated these processes in terms of differentiating among pupils on the basis of previous experience and skill development. Standards for the construction processes were determined and three levels of skill performance established as the basis for judging the problems in the pretest.

The pretest was administered to forty-two pupils in two ninth grade classes. Findings from exploratory use indicated that it was possible to group ninth grade homemaking pupils at three levels of skill development.

Learning experiences were developed for six selected concepts to exemplify planning for classes where three groups of pupils were identified by developmental levels of skills. Application of current philosophy in curriculum planning and development of plans usable for teaching ninth grade clothing construction at Robinson Junior High School, Wichita, Kansas, were considered when developing the learning experiences.

Major conclusions drawn from the study were:

1. Planning for and teaching for the differentiated development of specific concepts for three groups within a class may be more feasible educationally and more practical than planning for development of different concepts at different times with individuals.
2. There may be need for more structuring of subject matter content in clothing construction textbooks and manuals, as well as in classroom teaching, in terms of concepts and generalizations.

Because of the limited nature of this study the following recommendations were made:

1. Further use of the pretest be made under controlled conditions and with a larger number of subjects.
2. Validity and reliability of the pretest be determined.
3. The learning experiences developed for the selected concepts in clothing construction for three groups of ninth grade pupils be used and evaluated.
4. The procedures for determining groupings and the methods used for identifying concepts and for planning learning experiences be used further in the area of clothing construction and in other subject matter areas in home economics.

